

ROMAN REPUBLICAN LEGIONARY 298–105 BC



NIC FIELDS

ILLUSTRATED BY SEÁN Ó'BRÓGÁIN

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ROMAN REPUBLICAN LEGIONARY 298–105 BC

The Altar of Domitius Ahenobarbus is a large rectangular plinth believed to have once stood outside a temple to Neptune in the Circus Flaminius, Rome. One side (Paris, musée du Louvre, inv. Ma 975), seen here, shows a scene dominated by a sacrifice, the *suovetaurilia*, in which a sheep, pig and bull are slaughtered in honour of Mars to ensure purification. Just to the left of this scene is a tall dashing figure in military garb, Mars himself. To his left two legionaries seem to stand guard while citizens are being registered, while to the right of the *suovetaurilia* two others stand idly chatting along with a trooper, who is calming his spirited mount. (Fields-Carre Collection)

INTRODUCTION

The classic vision of the Roman legionary that passes through the mind's eye is of legion after legion of seasoned, ironclad veterans, advancing to disseminate death and panic in precise order, their standards floating high and their helmets glinting in the sun. This glamorized picture of the Roman legionary in his primary fighting role is perhaps extreme, but there is enough accuracy in it to justify its retention. Still, as will become clear, it was not always so.

Shortly after the Caudine Forks fiasco, when Roman citizens had suffered the utter humiliation of being forced to pass under the yoke, an act symbolizing their loss of warrior status, the tactical formation adopted by the Roman army underwent a radical change. The Roman legion had originally operated as a Greek-style phalanx, a densely packed block of citizens wealthy enough to outfit themselves with the full panoply of an armoured spearman, or hoplite. A position as a hoplite had been the privilege only of those who owned a certain amount of property, poorer citizens serving either as auxiliaries or as servants. After the Servian reforms, however, the Romans adopted the manipular system, whereby the legion was split into





Mars, god of war, on the Altar of Domitius Ahenobarbus (Paris, musée du Louvre, inv. Ma 975) dressed in the uniform of a senior officer, most probably that of a military tribune. Looking more Greek than Roman, he wears a short muscled cuirass equipped with two rows of fringed *pteruges* (a necessity for those who rode a horse), greaves and a crested Etrusco-Corinthian helmet. He also has a circular shield, a spear and a sword, which he wears on the left side. The knotted sash around his waist probably denotes his rank. (Fields-Carre Collection)

distinct battle lines, each consisting of tactical subunits, the maniples. In contrast to the single solid block of the phalanx, the legion was now divided into several small blocks, with spaces between them. The Romans, in other words, gave the phalanx 'joints' in order to secure flexibility, and what is more, each citizen soldier, or legionary, had twice as much elbow room for individual action, which now involved swordplay instead of spear work.

The legionary, like his hoplite counterpart, excelled at brutal close-quarter combat, but the manipular legion had a greater freedom of movement and flexibility than the original hoplite phalanx. Consequently, with this adoption of a new tactical formation, the Romans started to practise a tactical doctrine that placed emphasis on a one-foot-on-the-ground approach. Behind a screen of lightly armed legionaries (*velites*), the first line contained maniples of *hastati* (misleadingly called 'spearmen'), the second line was made up of maniples of *principes* ('chief men'), and the third line, made of the oldest and more mature men, consisted of maniples of *triarii* ('third-rank men'). In battle, the *velites* having done their bit and then dispersed rearwards through the ranks of their heavier comrades, the *hastati*, which contained the

youngest men, actively engaged the opposition, while the more experienced *principes* and *triarii* formed a mobile reserve. This formation in three lines, the *triplex acies*, allowed the possibility of reinforcement and mutual support. If the *hastati* were driven back the battle was not necessarily over, for an effective resistance might still be offered by the second or third line. Conversely, if the *hastati* were brought to a standstill, reinforcements either could be despatched to the flanks or fed directly into the fighting line.

Even though it was still a citizen militia recruited from property owners supplying their own weapons and equipment, it was the manipular legion that faced Pyrrhus and his elephants, the Gauls and their long swords, Hannibal and his tactical genius, and the Macedonians and their pikes, to name but a few of its formidable opponents. This book, therefore, will look at the recruitment (now based on age and experience as well as on wealth and status), training (now the responsibility of the state as opposed to the individual), weapons (new types being introduced, both native and foreign), and equipment and experiences (which included submission to a draconian regime of military discipline) of the Roman legionary at the epoch of the middle Republic, which opens with the last great war with the Samnites (the Third Samnite War, 298–290 BC) and closes with the Republic at the height of its imperial glory after its victory in north Africa (the Jugurthine War, 112–106 BC). The provisional legion in which the legionary served now exhibited many of the institutions and customs of the later professional legions, perhaps best reflected in one of its most notable practices, the construction of a temporary camp at the end of each day's march. Let us not forget, however, that our legionary's military service was not necessarily a career but an obligation he owed to the state.

CHRONOLOGY

298–290 BC	Third Samnite War.
295 BC	Romans defeat coalition of Samnites and Senonian Gauls at Sentinum.
281 BC	Rome declares war on Taras.
280–275 BC	Pyrrhic War.
280 BC	Romans defeated at Herakleia.
279 BC	Romans defeated at Asculum.
278 BC	Pyrrhos sails to Sicily.
275 BC	Pyrrhos defeated at Malventum (renamed Beneventum).
273 BC	Latin colonies planted at Cosa and Paestum.
272 BC	Taras falls to Romans (end of pre-Roman Italy).
264–241 BC	First Punic War.

264 BC	Roman alliance with Mamertini (consular army lands in Sicily).
263 BC	Hiero II of Syracuse becomes ally of Rome.
262 BC	Romans lay siege to Akragas (falls following year).
260 BC	Roman naval victory off Mylae.
258 BC	Roman naval victory off Sulci.
257 BC	Roman naval victory off Tyndaris.
256 BC	Roman naval victory off Ecnomus Regulus lands in Africa (captures Tunis).
255 BC	Xanthippos defeats Regulus near Tunis (Regulus captured).
254 BC	Romans capture Panormus.
250 BC	Romans lay siege to Lilybaeum.
249 BC	Roman naval defeat off Drepana.
247 BC	Hamilcar Barca lands in Sicily (seaborne raid on Bruttium).
246 BC	Hamilcar occupies Heirkte.
244 BC	Hamilcar shifts to Eryx.
241 BC	Roman naval victory off Aegates Islands.
240–237 BC	Libyan War; Carthage at war with its mercenaries.
238 BC	Rome annexes Sardinia (threatens Carthage with war).
237 BC	Hamilcar sent to Iberia.
236 BC	Gauls attack the Latin colony at Ariminum Romans defeat the Boii (annexation of part of their territory in Po valley).
231 BC	Roman embassy to Hamilcar.
229 BC	Death of Hamilcar (succeeded by Hasdrubal the Splendid).
229–228 BC	First Illyrian War.
227 BC	Praetors raised to four (Sicily and Sardinia–Corsica made Roman provinces).
226 BC	Roman embassy to Hasdrubal (signing of Iber Treaty).

225 BC	Romans defeat Gaulish (Boii, Insubres, Taurisci) invaders at Telamon.
223 BC	Flaminius defeats Insubres.
222 BC	Marcellus defeats Insubres near Clastidium.
221 BC	Hasdrubal assassinated (Hannibal Barca acclaimed generalissimo).
219 BC	Second Illyrian War: Demetrios of Pharos knocked down Hannibal storms Saguntum.
218–201 BC	Second Punic War.
218 BC	Romans defeated at Ticinus and Trebbia.
217 BC	Romans defeated at Lake Trasimene.
216 BC	Romans defeated at Cannae Capua revolts.
215 BC	Alliance of Carthage with Philip V of Macedon.
214–205 BC	First Macedonian War.
214 BC	Defection of Syracuse Romans expel Carthaginians from Saguntum.
213 BC	Hannibal enters Tarentum Romans besiege Syracuse.
212 BC	Romans besiege Capua.
211 BC	Hannibal marches on Rome (fails to prevent fall of Capua) Fall of Syracuse (Rome recovers Sicily) Cornelii Scipiones defeated and killed in Iberia.
210 BC	Scipio appointed to Iberian command Hannibal levels Herdonea.
209 BC	Tarentum recovered 12 Latin colonies refuse to supply troops Scipio takes New Carthage.
208 BC	Scipio defeats Hasdrubal Barca at Baecula (Hasdrubal leaves Iberia).
207 BC	Hasdrubal crosses the Alps (defeated and killed at Metaurus).
206 BC	Scipio's victory at Ilipa (end of Carthaginian resistance in Iberia) Masinissa defects to Rome.

205 BC	Mago Barca lands in northern Italy.
204 BC	Pact between Syphax and Carthage (marries Sophonisba) Scipio lands in Africa (begins siege of Utica) Masinissa joins Scipio.
203 BC	Burning of winter camps near Utica Scipio's victory at Great Plains (Hannibal and Mago recalled) Capture of Syphax (bittersweet death of Sophonisba) Defeat of Mago (dies en route to Africa) Hannibal lands at Hadrumentum.
202 BC	Hannibal marches to Zama (Scipio and Hannibal meet) Scipio's victory at Zama.
201 BC	Carthage reduced to client status Triumph of Scipio (takes cognomen 'Africanus').
200–197 BC	Second Macedonian War: Rome 'punishes' Philip V of Macedon.
200 BC	Philip lays siege to Athens.
198 BC	Philip retains Corinth.
197 BC	Philip defeated at Kynoskephalai Praetors raised to six (Hispania Citerior and Ulterior made Roman provinces).
196 BC	Hannibal elected <i>sufete</i> (political and economic reforms in Carthage) Rome proclaims Greek freedom.
195 BC	Hannibal's flight and exile Masinissa opens his raids on Carthaginian territory.
194 BC	Romans evacuate Greece Hannibal in court of Antiochos III of Syria.
192–189 BC	Syrian War: Rome versus Antiochos.
191 BC	Antiochos defeated at Thermopylai.
190 BC	Seleukid fleet under Hannibal defeated by Rhodians Antiochos defeated at Magnesia by Sipylos.
189 BC	Romans plunder Galatia.
188 BC	Peace of Apamea (Asia Minor and Aegean divided between Pergamon and Rhodes).
186–183 BC	Pergamon–Bithynia War.

186 BC	Exile of Scipio Africanus.
185 BC	Death of Scipio Africanus.
183 BC	Suicide of Hannibal.
181–179 BC	First Celtiberian War.
181 BC	Revolts in Sardinia and Corsica.
176 BC	Final reduction of Sardinia.
173 BC	Envoys sent to arbitrate between Carthage and Masinissa.
172–168 BC	Third Macedonian War: Rome versus Perseus of Macedon.
168 BC	Perseus defeated at Pydna (end of Macedonian monarchy).
167 BC	Macedonia divided into four republics Romans plunder Epeiros (150,000 people enslaved) Polybios taken to Rome.
163 BC	Final reduction of Corsica.
157 BC	Birth of Marius.
154–138 BC	Lusitanian War.
153–151 BC	Second Celtiberian War.
151 BC	Carthage declares war on Masinissa.
149–148 BC	Fourth Macedonian War.
149–146 BC	Third Punic War.
147–146 BC	Achaean War: the end of Greek independence.
147 BC	Scipio Aemilianus takes command in Africa (tightens siege of Carthage) Macedonia made Roman province.
146 BC	Destruction of Carthage (Africa made Roman province) Sack of Corinth Triumph of Scipio Aemilianus (awarded cognomen 'Africanus').
143–133 BC	Third Celtiberian War: the fall of Numantia.
137 BC	Roman force entrapped and surrenders to Numantines.
133 BC	Numantia falls to Scipio Aemilianus Asia Minor made Roman province

	Second triumph of Scipio Aemilianus (takes cognomen 'Numantinus').
129 BC	Death of Scipio Aemilianus.
121 BC	Gallia Transalpina made Roman province.
112–106 BC	Iugurthine War.
112 BC	Fall of Cirta (murder of Adherbal).
111 BC	Campaign of Bestia (settlement with Iugurtha).
110 BC	Campaign of Spurius Albinus Campaign and capitulation of Aulus Albinus.
109 BC	Metellus takes command in Africa Battle at the Muthul Siege of Zama Regia.
108 BC	Romans capture Thala Romans occupy Cirta.
107 BC	Marius takes command in Africa Romans capture Capsa.
106 BC	Battle at the Muluccha Sulla arrives in Africa.
105 BC	Bocchus' betrayal of Iugurtha.
104 BC	First triumph of Marius Marian army reforms.

ORIGINS OF THE MANIPULAR LEGION

The stage in the development of the Roman army that concerns us here is associated traditionally with the name of Marcus Furius Camillus, a national hero credited with saving Rome from the Gauls and commemorated as a second founder of Rome. These so-called Camillan army reforms fall under three headings: first, the introduction of a daily cash allowance, the *stipendium*, for the citizen soldiers; second, the adoption of the *scutum* instead of the *clipeus* as the standard shield, while the *pilum* was substituted for the *hasta*; and third, the abolition of the hoplite phalanx which was replaced by the manipular legion, two in number, each of 3,000 legionaries, and each commanded by a consul (Livy 1.43.1, 5.7.5, 8.8.3, Plutarch *Camillus* 40.4).

That all these major changes were effected at the same time and under the guidance of one, quasi-legendary man is in itself improbable. Though the long siege of Veii (Isola Farnese) may well have necessitated the provision of remuneration to allow the citizen soldiers to meet their basic living expenses



East face of Corno Grande (2,912m), Abruzzo region, the highest peak in the Apennines. Having gained a foothold in Campania meant making contact with the Greeks. It also guaranteed a confrontation with the Samnites, the numerous warlike highlanders of the inland Apennine mountains who for more than a century had been terrorizing the rich lowlands. Of all the peoples with whom the Romans vied for the hegemony of peninsular Italy, none were more formidable than the Samnites. (Lucio De Marcellis)

while away from home for an increasingly lengthy period, the adoption of new equipment and a new tactical formation is much more likely the result of experience gained from a series of campaigns. The Italic oval shield, the *scutum*, was already being carried by some of the soldiers at this date, while some of them continued to be armed with the *hasta* for another 200 years or more. Further, it has been suggested that the *pilum* was copied by the Romans from their Samnite enemies (e.g. Sallust *Bellum Catilinae* 51.38), or alternatively they may have developed it from a more rudimentary weapon of their own. Then again, like the *gladius*, it was probably based on Iberian models. When all is said and done, it is likely that many piecemeal reforms was later lumped together and attributed to the wisdom of Camillus, who, after all, was the period's most celebrated commander.

At first glance the *pilum* and *scutum*, and manipular tactics too, for that matter, do seem to hang together nicely. Thus it could be reasoned that they are all aspects of the same military reform: manipular tactics affirm strongly the use of *pilum* and *scutum*, and vice versa; hence the wisdom of Camillus. However, let us step back a bit and consider the following explanation instead. It is a time when Rome was a young republic, finding its feet and still a little unsteady. Nonetheless, when the Italian Greeks of Neapolis (Naples) appealed to the Romans against the Samnites, who had occupied their city with a garrison, the Second Samnite War (327–304 BC) was set in train. Described by Livy (books 7–10), this conflict was particularly hard-fought, and the Roman army was to suffer a serious and humiliating reverse at the Caudine Forks (321 BC). The unfavourable treaty that followed this defeat, a disaster to rank alongside the Allia rout, was soon broken when



Colossal marble statue (Rome, Musei Capitolini, inv. MC 0058) of Mars 'Pyrrhos', found in the Forum of Nerva and dated to the end of the 1st century AD. Befittingly, it stands 3.6m tall. By far the best of the mercenary *condottieri* whom it was Taras' habit to employ, the question of what would have happened if Pyrrhos had managed to defeat Rome is one of those fascinating 'what-ifs' of history. (Andrea Puggioni)

Rome resumed the struggle (316 BC). Despite a number of setbacks and punishing defeats, Rome at length emerged triumphant (304 BC). It now controlled nearly all Samnium and had planted a handful of colonies in southern Campania and western Apulia.

This war with the Samnites had been one of attrition, and in this sort of grinding affair the advantage lay with the men of the stony mountains, who

were much tougher and more tenacious than the men of the plains. So the abandonment of the Greek-style phalanx organization and the introduction of the manipular system may have been learned through bitter necessity and hard experience, fighting in the rough, mountainous terrain of the central Apennines during this bruising conflict. Up to this point in time the hoplite phalanx had fought generally on coastal plains, and a war waged in hinterland mountains meant that Rome's militiamen were constantly at the mercy of ambushes, supply failures, missed rendezvous, or the rash overstretching of the line of march. The Roman phalanx might defeat the mountain men of Samnium in open country, but once they had to be tackled amid the broken ground of their homeland, they presented the Romans with a stiffer problem.

So it was plausibly during the five-year interval between the humiliation at the Caudine Forks and the resumption of hostilities that Rome's militiamen underwent comprehensive training in manipular tactics, employing smaller and more flexible units like those apparently used by the Samnites, though Livy, our source in this particular context, may be using Roman terminology for the sake of clarity (e.g. 8.30.11, 10.20.15, 40.6).

RECRUITMENT AND TRAINING

In our chosen period of study, the Roman army was based on the principle of personal service by the citizens defending their state. It was not yet a professional army. The term *legio*, meaning 'levy', referred to the entire citizen force raised by Rome in any one year, but by at least the 4th century BC it had come to denote the most significant subdivision of the army. Then, as Rome's territory and population increased, it was found necessary to levy two consular armies, each of two legions. Yet accompanying each Roman legion were soldiers provided by Rome's Latin and Italian allies, the *socii* (Polybios 6.26.7). Their principal unit was known as the *ala*, meaning 'wing', which deployed the same type and number of infantry as the Roman legion. By the time of Hannibal, if not before, in a standard consular army the two Roman legions would form the centre with two Latin-Italian *alae* deployed on their flanks – they were known as the '*ala* of the left' and the '*ala* of the right' (Polybios 6.26.9).

Dilectus

All citizens between 17 and 46 years of age who satisfied the property criteria – namely those who owned property above the value of 11,000 *asses*, the minimum requirement for enrolment into Class V (Livy 1.43.8) – were required by the Senate to attend a selection process, the *dilectus*, at the Capitol (Aulus Gellius *Noctes Atticae* 10.28). Although Polybios' passage is slightly defective here, citizens were liable for 16 years' service as a legionary, called a *miles*, or ten as a horseman, called an *eques* (Polybios 6.19.2). These figures represent the maximum that a man could be called upon to serve. In the 2nd century BC, for instance, a man was normally expected to serve up to six years in a continuous posting, after which he would be released from his military oath. Thereafter he was liable for enlistment, as an *evocatus*, up to the maximum of 16 campaigns or years. Some men might serve for a single year at a time, and be obliged to come forward again at the next *dilectus*, until their full six-year period was completed.



Rating himself as third after Alexander and Pyrrhos, Hannibal was overly modest. His victories over the Roman legions were certainly more impressive than those of Pyrrhos, and his strategic focus in Italy was much clearer. Though Alexander achieved spectacular far-reaching conquests, he did so using the superb Macedonian military machine created by his father, whereas Hannibal achieved his continuous run of successes with an ad hoc collection of polyglot, multicultural mercenaries. Neoclassical marble statue of Hannibal (Paris, musée du Louvre, inv. MR 2093) by Sébastien Slodtz and François Girardon, dated between 1687 and 1704. (Fields-Carré Collection)

At the *dilectus*, height and age arranged the citizens into some semblance of soldierly order. They were then brought forward four at a time to be selected for service in one of the four consular legions being raised that year. The military tribunes (*tribuni militum*, ‘tribunes of the soldiers’) of each legion took it in turns to have first choice, thus ensuring an even distribution of experience and quality throughout the four units. They then ordered the soldiers to take a formal oath, which was called a *sacramentum*. Though the

exact text of the oath is not given by Polybios, he does say a soldier swore that 'he would obey his officers and carry out their commands to the best of his ability' (6.21.1). Servius, a syntactician from the 4th-century AD, adds one intriguing detail: 'they swore that they would act on behalf of the *res publica*' (*ad Aeneid* 8.7). To speed up the process, the oath was sworn in full by one man, and then each of the others swore that he would do the same, perhaps using the phrase '*idem in me*', meaning 'the same for me'. They were given a date and muster point, and then dismissed to their homes.

Finally, and most briefly, in the aftermath of the crushing defeats at the Trebbia, Lake Trasimene, and Cannae, the Senate made the first of a number of alterations to the Servian constitution. In the dark days following Cannae, for instance, two legions were enlisted from slave volunteers (Livy 22.57.11, 23.32.1), who obviously must have been fitted out by the state. Around the same time there was an official debasement of the property threshold for Class V from 11,000 *asses* to 4,000 *asses*, for Polybios (6.19.2) reports that in his day the minimum property qualification for military service was set at 400 *drachmae* (4,000 *asses*). What is more, Cicero (*De re publica* 2.40), in an academic discussion that supposedly took place in the garden of Scipio Aemilianus and whose dramatic date is 129 BC, sets the minimum at 1,500 *asses*, a reduction that is best ascribed to Caius Gracchus during one of the two terms he served as one of the ten tribunes of the people, either in 123 BC or in 122 BC. This last figure represents a very small amount of property indeed, almost certainly insufficient to maintain an average-sized family. These revisions were an ongoing attempt to increase the number of citizens that qualified for military service (Gabba 1976: 7–10).

Exercise

The Romans obviously attached a great deal of importance to training, and it is this that largely explains the formidable success of their militia army. 'And what can I say about the training of legions?' is the rhetorical question aired by Cicero. 'Put an equally brave, but untrained soldier in the front line, and he will look like a woman' (*Tusculanae disputationes* 2.16.37). The basic goal of this training was to give the legions superiority over the 'barbarian' in battle, and, even as late as the 4th century AD, Vegetius attributed 'the conquest of the world by the Roman people' (1.1) to their training methods, camp discipline, and military skills. Having said all that, the Romans took



ENLISTMENT

In this reconstruction we witness citizens being selected by the military tribunes for service in one of the four consular legions. We are on the Capitol in Rome for the selection process, called the *dilectus* ('the choosing'), which selected the best candidates from among those who presented themselves. The basic article of clothing for both military and civilian use was the tunic, usually white or off-white, though other earth colours (browns, tans, greys, greens, oranges and some reds) were available. This was a sleeveless woollen garment made of two rectangular pieces of cloth sewn together and closed with seams under the arms and down the sides. The seams were left unsewn on either side of the neck and held together by a bronze pin. Unbelted, the tunic would normally reach to mid-calf, but it was usual to blouse it out over a belt worn at the waist. Civilians would thus adjust their garment to a little below the knee, but it was a mark of a soldier to wear it much higher, at mid-thigh level. The military tribunes, on the other hand, are turned out in 'parade uniform': Etrusco-Corinthian or Attic style helmet with fore-and-aft crest; short decorated muscled bronze cuirass with two rows of fringed *pteruges* of white linen with plain fringing; waist sash, cloak, both scarlet, and linen tunic, bleached white and edged purple, thereby denoting their senatorial rank; Greek-style boots and a *gladius* suspended from the left hip from a sword belt.





Philip V of Macedon (r. 221–179 BC) had been an ally of Hannibal and, albeit having done little to support him, there was a sour feeling in Rome towards those who aided its foes. With Rome virtually on its knees, the king had seen this alliance as a golden opportunity to remove Rome's influence over neighbouring Illyria, which he naturally saw as a threat to his own interests. In 198 BC a consular army of two legions and two *alae* was sent to teach him a sharp lesson. (Ancient Art & Architecture)

great pride in their ability to learn from their enemies too, copying war gear and tactics from successive opponents and often improving upon them. This was one of their strong points and, as Polybios rightly says, 'no people are more willing to adopt new customs and to emulate what they see is better done by others' (6.25.10).

While the *gladius* was designed for use as a stabbing weapon, it could still dismember opponents with its keen, two-edged blade. Yet the Romans saw the advantages of using the point of a *gladius*, and in training a recruit was taught to employ the thrust and not the slash. Needless to say, a specialized weapon required specialized training and the training methods adopted by the Romans are well described by Vegetius (1.11–12), who saw correctly that the problem

with the army of his day was the neglect of disciplined legionary tactics. His military treatise, though composed in the late 4th century AD and despite its shortcomings, gives us a good insight into the physical realities of recruit training during our period:

1.11. The ancients... trained recruits in this manner. They made round wickerwork shields, twice the weight that a government shield normally was. They also gave the recruits wooden swords, likewise of double weight, instead of real swords. So equipped, they were trained not only in the morning but even after noon against posts. Indeed, the use of posts is of very great benefit to gladiators as well as soldiers.... Each recruit would plant a single post in the ground so that it could not move and protruded six [Roman] feet [i.e. 1.8m]. Against the post as if against an adversary the recruit trained himself using the wickerwork shield and wooden sword, just as if he were fighting a real enemy. Sometimes he aimed as against head and face, sometimes he threatened the flanks, and sometimes he tried to cut the hamstrings and legs. He gave ground, came on, sprang, and aimed at the post with every method of attack and art of combat, as though it were an actual opponent. In this training care was taken that the recruit drew himself up to inflict wounds without exposing any part of himself to a blow.

1.12. Further, they learned to strike not with the edge, but with the point. For the Romans not only easily beat those fighting with the edge, but also ridicule them, as a slash-cut, whatever its force, seldom kills, because both armour and bones protect the vitals. But a thrust driven two inches in is fatal; for necessarily whatever goes in penetrates the vitals. Secondly, while a slash-cut is being delivered, the right arm and flank are exposed; whereas a thrust is inflicted with the body remaining covered, and the enemy is wounded before he realizes it.... The wickerwork shield and wooden sword of double weight they gave out so that when the recruit took up real and lighter arms, he fought with more confidence and agility, as being liberated from the heavier weight.



Military training was tough even for the hardiest of citizens, and sword drill of this kind was alternated with running, jumping, swimming and the felling of trees. Additionally, three times a month, there were long route marches where the pace was varied from the normal marching rate to a rapid trot (Vegetius 2.23). Once the recruit, now bulked out with muscle and bursting with stamina, had attained a proper proficiency with the dummy weapons, he would begin training with the real thing. Formal training culminated in individual combat, with each recruit being assigned another as adversary. By the end of our period of study this more advanced stage of weapons training had a name, *armatura*, borrowed from the gladiatorial schools.

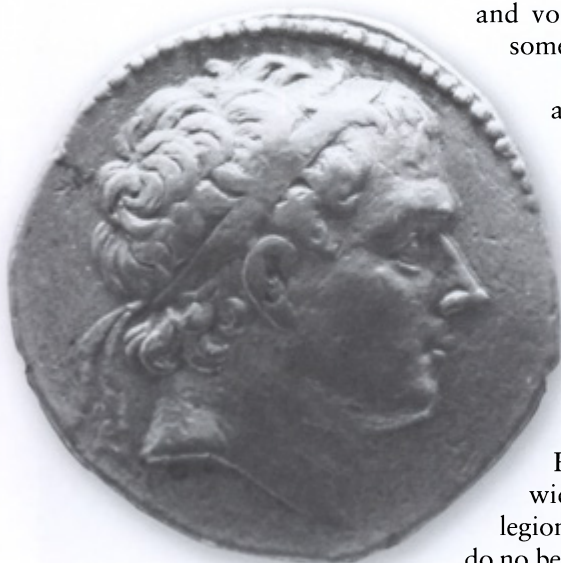
The making of a legionary

At first, service in the Roman army entailed a citizen being away from his home – invariably a small farmstead – for a few weeks or months over the summer. But the need to fight overseas and to leave troops to form permanent garrisons in newly won provinces meant that men were away from home for longer periods. This interruption from normal life could easily spell ruin for the soldier farmers who had traditionally made up the bulk of citizens eligible for military call-up. Hopkins (1978: 35) estimates that in 225 BC legionaries comprised 17 per cent of all the adult male citizens, and in 213 BC, at the height of the war with Hannibal, 29 per cent.

Inevitably, what had been seen as a duty and voluntary obligation took on a somewhat different character.

That said, there existed from at least 200 BC onwards a core of near-professionals, very experienced and well-trained legionaries who liked the adventure and the risks of soldiering, or who had few, if any, domestic ties and who were more than glad to volunteer for the army over a number of years. To indicate the compass of Roman campaigning and the wide-ranging experience of legionaries from this period, we can do no better than turn to Livy (42.34.5–

Panoramic view of Mount Sipylus (1,513m) in Lydia. It was on the level playing field below this mountain that the highly professional army of Antiochos the Great was made to look somewhat ridiculous. Failing to learn from past experience, the Hellenistic monarchies did not update their armies and so discovered to their cost that the legions of republican Rome were an irresistible force. Perhaps it is always the curse of highly civilized nations to be a war or two behind their less refined opponents. (Yasin Yalınz)



Seleukid gold stater (London, British Museum) of Antiochos III of Syria (r. 223–187 BC). He was known as 'the Great' in conscious imitation of Alexander, and was the inheritor of the empire acquired by Seleukos, one of Alexander's generals. He deeply resented the meddling of Romans in the political fortunes of the Balkans, which, since the removal of Philip V from the arena, he regarded as his trust. The Roman legions quickly pushed him out of Greece, and, crossing to Asia in the autumn of 190 BC, trounced his splendid army in battle near Magnesia by Sipylus. (Uploadalt)

11) and use the frequently quoted example of the citizen soldier of Sabine stock, Spurius Ligustinus, in whose mouth Livy puts the following words:

I joined the army in the consulship of Publius Sulpicius and Caius Aurelius [200 BC]; and served for two years in the ranks in the army, which was taken across to Macedonia in the campaign against King Philip [i.e. the Second Macedonian War, 200–197 BC]. In the third year Quinctius Flaminius promoted me, for my bravery, centurion of the tenth manipule of *hastati*. After the defeat of Philip and the Macedonians [at Kynoskephalai, 197 BC], when we had been brought back to Italy and demobilized, I immediately left for Iberia as a volunteer with the consul Marcus Porcius [i.e. Cato, cos. 195 BC]. Of all the living generals none has been a keener observer and judge of bravery than he, as is well known to those who through long military service have had experience of him and other commanders. This general judged me worthy to be appointed centurion of the first century of *hastati*. I enlisted for the third time, again as a volunteer, in the army sent against Aetolians and King Antiochus [i.e. Syrian War, 192–189 BC]; Marcus Acilius appointed me centurion of the first century of the principes. When Antiochus had been driven out and the Aetolians had been crushed [at Thermopylai, 191 BC], we were brought back to Italy; and twice after that I took part in campaigns in which the legions served for a year. Thereafter I saw two campaigns in Iberia [i.e. First Celtiberian War, 181–179 BC], one with Quintus Fulvius Flaccus as praetor, the other with Tiberius Sempronius Gracchus in command. Flaccus brought me back home with the others whom he brought back with him from the province for his triumph, on account of their bravery; and I returned to Iberia because I was asked to do so by Tiberius Gracchus. Four times in the course of a few years I held the rank of *centurio primi pili* [i.e. centurion of the first century of the *triarii*]; 34 times I was rewarded for bravery by the generals; I have been given six civic crowns [*coronae civicae*]. I have completed 22 years of service, and I am now over 50 years old.

Panoramic view of Monte Miesola, Marche region. Nearby on the Via Flaminia lie the ruins of ancient Sentinum in Umbria. The location for one of the most crucial battles in Roman history, Sentinum was the decisive battle of the Third Samnium War. This *battaglia delle nazioni*, as it has aptly been labelled, settled the destiny of peninsular Italy. Years of hard slog still lay ahead for Rome, but henceforth it could deal with its foes one by one. (Fausto Baiocco)



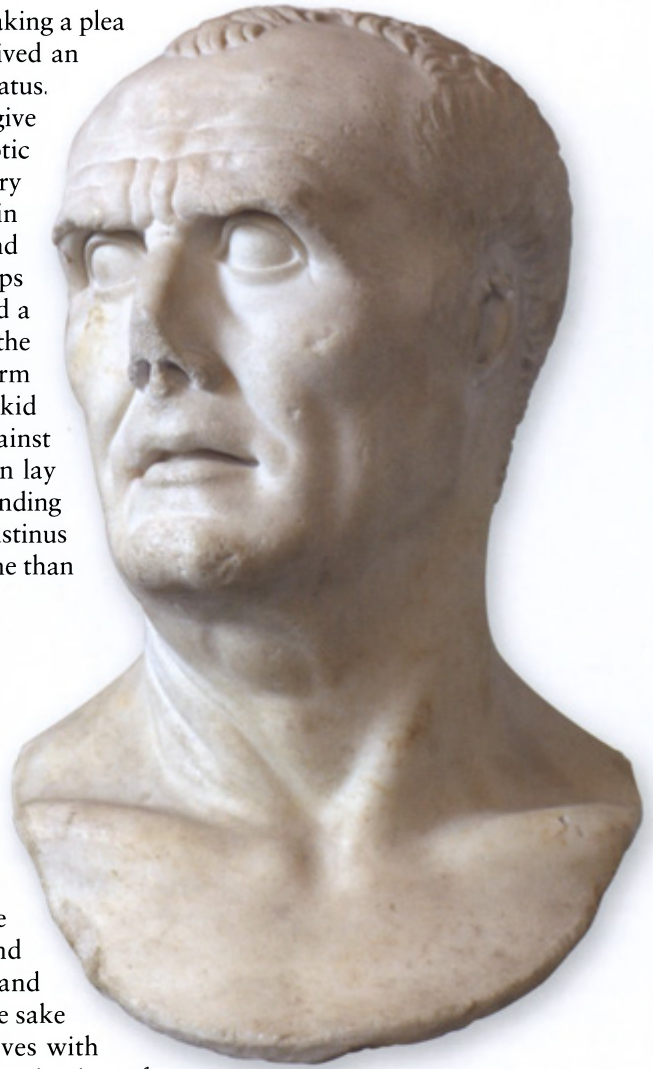
The stout, grubby old veteran Ligustinus was making a plea to the consuls of 171 BC to ensure that he received an appointment appropriate to his experience and status. Albeit highly rhetorical, Ligustinus' speech does give us a glimpse of the nature of distant and chaotic engagements fought by the army of the 2nd century BC. After his initial six years of service in Macedonia, he had re-enlisted as a volunteer, and served in Iberia, Greece, Asia, and perhaps elsewhere for a further 16 years. We may hazard a guess and say that he not only collided against the pikes of Macedonian phalangites and stood firm against the stampeding elephants of a Seleukid monarch, but also fought dirty little wars against tribal insurgents across the Pyrenees. And herein lay the Roman genius, namely, the canny knack of finding a way to take a humble peasant farmer like Ligustinus and turn him into a more efficient killing machine than any other in the Mediterranean world.

ORGANIZATION

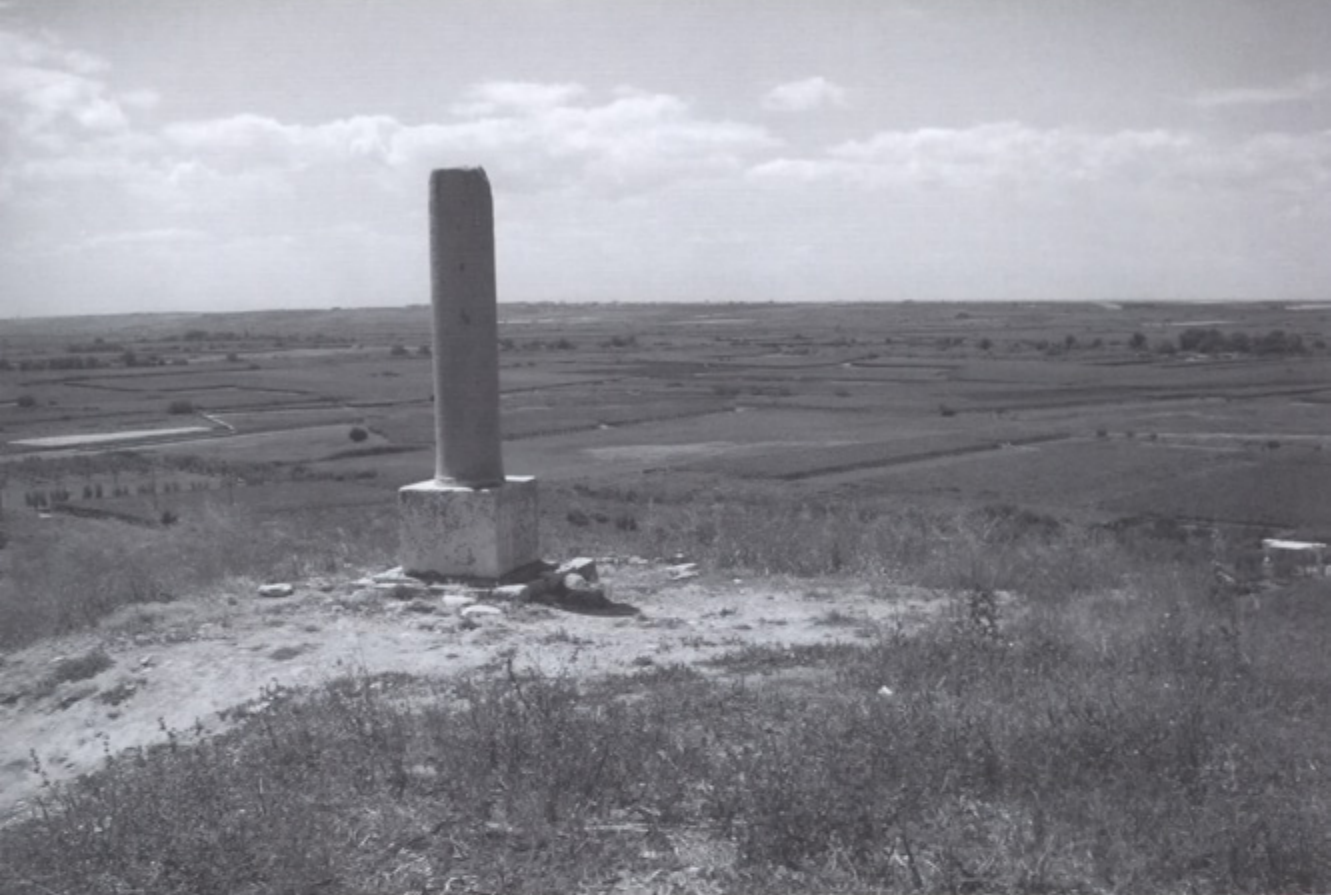
We have two accounts of the manipular legion's organization. First, the Roman historian Livy, writing more than three centuries after the event, describes the legion of the mid-4th century BC. Second, the Greek historian Polybios, living and writing in Rome at the time, describes the legion of the mid-2nd century BC. The transition between the Livian and Polybian legion is somewhat obscure, but for the sake of brevity and clarity, we shall concern ourselves with the Polybian legion. Indeed, for the actual organization of the manipular legion, *terra firma* is reached only with Polybios himself, who breaks off his narrative of the Second Punic War at the nadir of Rome's fortunes, following the triple catastrophes of the Trebbia, Lake Trasimene, and Cannae, and turns to an extended excursus on the causes of Rome's greatness, namely its 'mixed constitution' (6.11–18) and the instrument of power used to carry out its policies, the army (6.19–42). His lengthy analysis remains the clearest and most concise account of those twin institutions to this day. Polybios had no doubts that the Romans of his own and earlier times wanted to grow from a puny riverine hamlet to a powerful world empire. He was still only a boy at the time of the battle of Zama (202 BC) but when his friend Scipio Aemilianus decided to destroy Carthage (146 BC) he was there with him. For Polybios the triumph of Rome was somehow decreed by destiny, the result of a savage law of nature.

Legio

The standard complement of the Polybian legion was 4,200 infantry and 300 cavalry, in theory if not in practice (6.20.8–9). Elsewhere, Polybios refers to the standard complement of 4,000 infantry and 300 cavalry



Marble bust of Marius (Munich, Glyptothek, inv. 319), probably an Augustan copy of the 2nd century original. Marius has often been credited with taking the decisive steps that laid the basis for the professional standing army based on the cohortal legion. At the end of our period of study Rome was the dominant power in the Mediterranean, and the annual levying of what was in effect a provisional citizen militia was incompatible with the running and maintenance of a world empire. Accordingly, Marius opened the army to all citizens regardless of their wealth. (Bibi Saint-Pol)



The eight legions (and an equal number of *alae*) mobilized for the Cannae campaign were not expected to lose, much less to be annihilated. Yet on the plain of Cannae the Romans were poorly deployed, as it made no sense for the legions to mass like old-fashioned phalanxes. Crammed like sardines, individual legionaries lost open space and the crucial ability to use their *pila* and *gladii* with advantage. Panoramic view of the battleground, seen here with the 19th-century monument commemorating that tragic day. (Jörg Schulz)

(1.16.2) and of 4,000 infantry and 200 cavalry (3.107.10), and does suggest that there were sometimes fewer than 4,000 infantry per legion (6.21.10). The legion, whatever its strength with regard to ‘boots on the ground’, consisted of five elements: the heavy infantry comprising the *hastati*, *principes*, and *triarii*; the light infantry, *velites* (*grosphomachoi* in Polybios’ Greek); and the cavalry, *equites* – each equipped differently and having specific places in the legion’s tactical formation. Its principal strength was the 30 maniples (*manipuli*) of its heavy infantry, the *velites* and *equites* acting in support of these, the velites being normally flung out in front of the main battle line at the outset of battle, and the *equites* detached to operate on its wings. Its organization allowed it only one standard formation, the *triplex acies* with three successive, relatively shallow lines of ten maniples each, these fighting units supporting each other to apply maximum pressure on an enemy to the front.

The legion was therefore divided horizontally into three lines, and vertically into maniples. The first line contained 1,200 *hastati* in ten maniples of 120, the second line 1,200 *principes* organized in the same way, and the third line of 600 *triarii* also in ten maniples. The *hastati* were men in the flower of youth, the *principes* in the prime of manhood, and the *triarii* the oldest and more mature men (Polybios 6.21.7). The same order for the three lines appears elsewhere in Polybios’ narrative (14.8.5, 15.9.7) and in Livy’s also (30.8.5, 32.11, 34.10), as well as in other antiquarian sources (e.g. Varro *de lingua Latina* 5.89). Of the 4,200 legionaries in a full-strength Polybian legion, while 3,000 served as heavy infantry, the remaining 1,200 men, the youngest and poorest, served as light infantry. Known as *velites* or ‘cloak-wearers’, as they lacked any form of body armour, they were divided for

administrative purposes among the heavy infantry of the maniples, each maniple being allocated the same number of *velites* (Polybios 6.21.7, 24.4). Finally, six military tribunes were attached to each legion, there being no legionary officer with a regular rank in overall command.

Manipulus

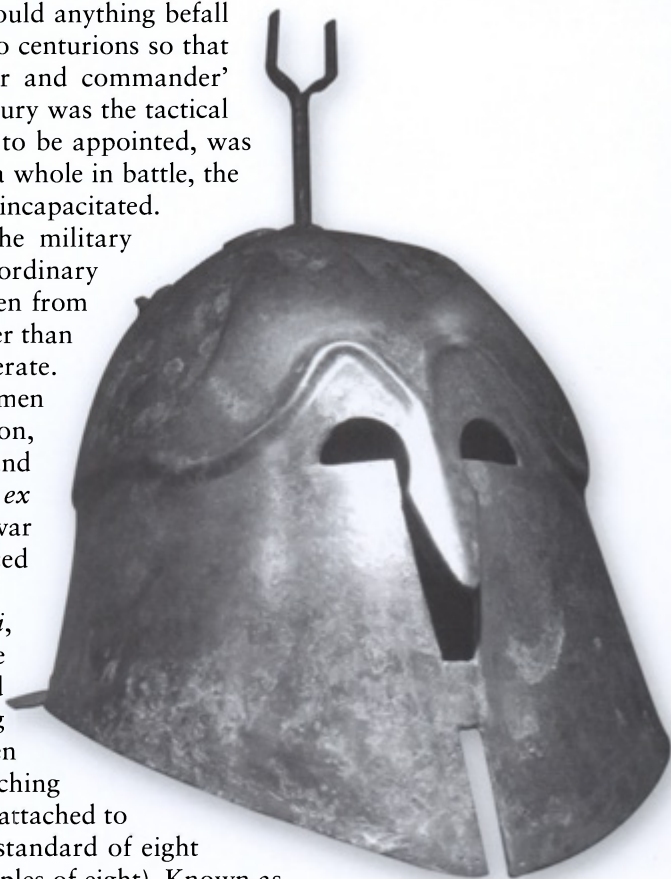
Whereas both *hastati* and *principes* normally had 120 legionaries to a *manipulus*, the *triarii* mustered only 60. The term *manipulus*, 'a handful', derived from the handful of straw suspended from a pole as a military standard and, hence, soldiers belonging to the same unit. With the adoption of the manipular legion it became the basic fighting unit of the Roman army. Organized into two centuries, each century carried its own standard (*signum*) and was led by a centurion (*centurio*). Each *centurio* was supported by four subordinates, a second-in-command (*optio*), a standard-bearer (*signifer*), a trumpeter (*tubicen*), and a guard commander (*tesserarius*). Though Polybios does not mention the last two junior officers in his analysis of the legion, he does mention them when he discusses Roman camp security (6.34.7–12, 35.5). The *optio* stood at the rear of the *centuria*, to keep the men steady and in place, while the *tesserarius* supervised the posting of the nightly sentries and was responsible for distributing the daily watchword, which he received inscribed on a token (*tessera*).

Polybios says the centurions 'choose from the ranks two of their bravest and most soldierly men to be the standard-bearers for each maniple' (6.24.5). As there was only one *signum* per maniple, however, one of the *signiferi* was evidently a substitute should anything befall the other. He also says each maniple had two centurions so that the unit 'should never be without a leader and commander' (6.24.6). As the maniple rather than the century was the tactical unit, the *centurio prior*, the first of the two to be appointed, was responsible for commanding the maniple as a whole in battle, the *centurio posterior* only taking over if he was incapacitated.

Centurions were either appointed by the military tribunes, or elected from amongst the ordinary soldiers, the *milites*. They were usually chosen from experienced and proven soldiers, steady rather than especially bold men, and they had to be literate. Though of the same social background as the men they led, the senior centurion of the legion, commander of the first maniple of the *triarii* and ranked *centurio primi pili*, was included *ex officio* along with the tribunes in the consul's war council. Such men could be very experienced indeed.

With 60 heavy legionaries (*hastati*, *principes*) to a *centuria* there were only three practical formations: three deep, six deep and 12 deep. These were each formed by doubling the previous formation. The basic six-by-ten formation is confirmed by the normal marching order of six abreast, and when the 20 *velites* attached to each *centuria* were added, we arrive at the standard of eight men to a file (cf. Greek system of using multiples of eight). Known as

The Etrusco-Corinthian helmet was another Italic pattern commonly used by legionaries, and it is particularly associated with the *triarii* and senior officers. This 4th- or 3rd-century example from southern Italy is without cheek pieces, but it still retains the characteristic crest holder. Developed from the Corinthian type much used by Greek hoplites, this pattern was worn on top of the head jockey fashion, while preserving the now redundant eyeholes and nasal guard of the original facial area for decoration. (Claire H.)



Silver tetradrachm of Graeco-Bactrian King Eukratides I (r. 171–145 BC). The obverse (left) shows the king wearing a crested Boiotian helmet, which can best be described as a bronze riding hat with a downturned brim that has been bent into elaborate folds. For cavalry use it had the advantage that the face was open and the wearer could hear commands without difficulty. The Boiotian helmet was usually hammered out from one piece of sheet bronze. (Bibi Saint-Pol)



a *contubernium*, ‘a tentful’, the members of a file shared a tent, and living in close proximity to each other for long periods would have promoted solidarity and encouraged comradeship – what modern commentators call small-group dynamics, the heart of which is commitment to one’s comrades in the group, rather than commitment to loftier ideals.

In battle a *manipulus* would thus normally deploy six (*hastati*, *principes*) or three (*triarii*) deep, and in order to give each man room to use his weapons he would have, if we are to believe Polybios (18.30.5–8), a frontage of 6 Roman feet (1.8m) as well as an equivalent depth, which corresponds to the late Hellenistic tactician Asklepiodotos’ ‘most open order, in which the men are spaced both in length and depth 4 cubits (1.84m) apart’ (*Téchne Takitké*

B

TRAINING

The basic aim of training is the creation of that ephemeral quality, *esprit de corps*, a soldier’s confidence and pride in himself and his unit. Personal bravery of a single individual does not decide the issue on the actual day of the battle, but the bravery of the unit as a whole, and the latter rests on the good opinion and the confidence that each individual places in the unit of which he is a member.

Roman swordsmanship was a fully developed art with a comprehensive system of practices and techniques, and it was in our period that the basic system of training in the use of the *gladius* was developed and refined. Basic swordsmanship techniques can be divided into three major groups: cuts, thrusts and parries. The training programme for legionaries was both rigorous and continuous. It was based upon repeated drills, which not only developed the outer factors of the art (viz. technique, accuracy), but the inner ones (viz. control, balance) too. The use of an exercise sword made of hardwood greatly increased the range of practice, and even hardened veterans of countless battles were supposed to submit themselves to the punishing ordeal of bouts with dummy swords. The competition through direct confrontations and continual testing of abilities must have been merciless. It is not surprising, then, to see the dummy sword itself becoming a weapon with nasty possibilities in the hands of an expert who knew how to concentrate the full force of his jabs upon the vital parts of his opponent’s anatomy.

In this reconstruction we witness legionaries undergoing weapons training under the instruction of their centurions. We are in one of the permanent camps outside of Numantia, Iberia. The legionaries are in ‘undress uniform’: bleached white belted tunic, broad and full, gathered at the waist and just above the knee, and military belt. Some of them are matched in pairs and are fighting with wooden swords, while others practise casting ‘live’ *pila* at bales of straw. The centurion instructors are in ‘barrack dress’: various patterns of helmet (a matter of choice) but each adorned with a large, transverse horsehair crest dyed dull red; long, iron mail shirt; gnarled vine-stick, *vitis*, which served as a mark of rank and as a means of inflicting punishment upon lackadaisical soldiers.



Attic helmet (Malibu, Getty Villa, inv. 93.AC.27) from southern Italy, around 350–300 BC. Fine details added in relief and incised include a diadem over which locks of hair curl, while more curls beautify the hinged cheek pieces. The crown of the helmet carries a griffin's head and wings, and spiralled feather holders. Because the Attic allowed its wearer to see and hear reasonably well, it seems to have been popular with those who fought in a fluid fashion, such as the *equites* and the *velites*. (Marshall Astor)



4.1). On the other hand, Vegetius (3.14, 15), who appears to be using Cato as his source here, claims that the individual legionaries occupied a frontage of 3 Roman feet (0.9m) and a depth of a Roman foot (0.3m), with a depth of 6 Roman feet (1.8m) between ranks. This close-order formation corresponds to Asklepiodotos' 'intermediate compact formation, in which they are distant 2 cubits (0.92m) from one another on all sides' (*Téchne Takitké* 4.1), and gives a *manipulus* a frontage of approximately 18m and a depth of 12m (*hastati, principes*) or 6m (*triarii*).

Turma

Attached to each *legio* was a small cavalry detachment, some 300 strong and divided into ten tactical subunits known as *turmae*. With a nominal strength of 30 troopers, each *turma* was organized, probably for administrative purposes only, as three smaller subunits (Polybios 6.20.8–9, 25.1, cf. 2.24.13, Livy 3.62). The military tribunes appointed three *decuriones* to each *turma*,

of whom the senior commanded with the rank of *praefectus*. Each *decurio* chose an *optio* as his second-in-command and rear-rank officer (Polybios 6.25.1–2). This organization suggests that the *turma* was divided into three files of ten, each led by a *decurio* ('leader of ten') and closed by an *optio*. These files were obviously dependent tactical subunits, for the *turma* was evidently intended to operate as a single entity, as indicated by the seniority of one *decurio* over his two colleagues.

The cavalry or *equites* formed the most prestigious element of the legion, and were recruited from the wealthiest citizens able to afford and maintain a horse and its trappings (Polybios 6.20.9). By our period these included the top 18 centuries (*centuriae*) of the voting assembly, the *comitia centuriata*, who were rated *equites equo publico*, the equestrian elite, obliging the state to provide them with the cost of a remount should their horse be killed on active service. Cato was later to boast that his grandfather had five horses killed under him in battle and replaced by the state (Plutarch *Cato major* 1.3). Being young aristocrats, the *equites* were enthusiastic and brave, but

better at making a headlong charge on the battlefield than patrolling or scouting. This was a reflection of the lack of a real cavalry tradition in Rome, as well as the fact that the *equites* included the sons of many senators, eager to create a reputation for courage and so help their future political careers. Before being eligible for political office in Rome a man had to have served for ten campaigns with the army.

EQUIPMENT AND APPEARANCE

The basic model of legionary armour consisted of protective equipment for the head, the upper chest, and the lower legs. The need for protection was balanced by the need for mobility. Nonetheless, those who had the means to do so increased their protection by donning protective equipment for the shoulders, the lower chest and the lower abdomen too.

The Polybian *hastati* and *principes* carried the Italic oval, semi-cylindrical body shield, conventionally known as the *scutum*; the Iberian cut-and-thrust sword, the *gladius Hispaniensis*; and two sorts of *pila*, heavy and light. His *triarii* were similarly equipped, except that they carried a long thrusting spear, the *hasta*, instead of the *pilum* (Polybios 6.23.6). This weapon obviously survived from the era when the Roman army was a hoplite militia. Dionysios of Halikarnassos, who calls them ‘cavalry spears’ (20.11.2), says hoplite spears were still being employed in battle by the *principes* during the war with Pyrrhos. The *hasta* was perhaps obsolete in Polybios’ day, though probably still in use during the *tumultus Gallicus* of 223 BC, when it is, for the only time, mentioned in action (Polybios 2.33.4), while the annalistic tradition does not notice it at all.

Helmet (*galea*)

A legionary’s head, no matter his wealth, was well protected by a helmet, which fitted snugly over his cranium. Polybios says (6.23.14) that legionaries wore a bronze helmet but he does not describe it. However, we know that the Attic, Etrusco-Corinthian and Montefortino styles were all popular in Italy at this time and were probably all used, as they certainly all were by later Roman troops. Polybios does say (6.23.12–13) that helmets were crowned with three upright purple or black feathers one cubit (44.4cm) tall, exaggerating the wearer’s height. We shall look at just two patterns, the Attic and the Montefortino.

The Attic style of helmet seems to have evolved from the ‘Chalcidian’ helmet, so named after ‘Chalcidian’ vases of the late 6th century BC, when it first appeared. With good ventilation, the facility for unpaired hearing and vision, and without sacrificing too much facial protection, this had been a very popular helmet in its original form. However, improved versions with a cranial ridge for better protection and hinged cheek pieces for better ventilation appeared.

Soldadas de Estepa (Seville, Museo Arqueologico de Sevilla), a relief carved in a block of local limestone showing two soldiers equipped and armed in the style of legionaries of the 2nd and 1st centuries BC. Notice each legionary is wearing a pair of greaves, not just a single one. (Ancient Art & Architecture)



Mausolée de Glanum, Saint-Rémy-de-Provence, a funerary monument of the Iulii dated to 30–20 BC. In this relief (pedestal, east face) we see a battle based on the Trojan War (struggle for Patroklos' corpse). Of interest are the variety of helmet patterns. These reflect those worn by legionaries of our period, namely Attic, Montefortino, Etrusco-Corinthian and Boiotian. Note the more exotic crests crowning some of the helmets. (Maarjaara)



The nasal guard also became smaller and disappeared entirely from some helmets, giving rise to the Attic style in which the only vestige of the nasal piece was an inverted 'V' over the brow. This type was extremely popular throughout the Italian Peninsula. Crests, if worn, were most often white, red-brown or black, made from natural horsehair, but could also be dyed.

The Montefortino pattern evolved around the turn of the 4th century BC and was to prove extremely popular with the Romans, probably being adopted by them from the Senonian Gauls (Cascarino 2007: 104). The bulbous-shaped helmet was held in place by leather thongs that ran from rings under the protecting neck guard, crossed under the chin and attached to metal loops, hooks or studs on the lower part of each cheek piece. Though



FIRST-LINE LEGIONARY, *HASTATUS*

In this reconstruction we show a *hastatus*, in fighting order, from the time of the Pyrrhic War. He is a citizen of few means: he wears an unadorned Montefortino helmet and possesses no body armour, no greaves and is barefooted. A bronze pectoral plate (about 20cm square) is strapped across his upper chest. He carries an oval-shaped body shield, or *scutum*, with metal binding on the top and bottom and a sheet-metal boss plate (copper alloy or iron), which reinforces the wooden spindle boss. He is holding two *pila*, one heavy and one lightweight. An Iberian-pattern cut-and-thrust sword (a straight-bladed, sharp-pointed weapon from which the celebrated Roman *gladius Hispaniensis* would evolve) is carried in its scabbard high on the right hip. He wears an undyed woollen tunic. It is threadbare and patched.

It is worth noting that the term *hastati*, spearmen, should be taken to mean armed with throwing spears, namely *pila*, instead of thrusting ones. This is, after all, the sense it bears out in our earliest surviving example of it, in Ennius' line '*hastati spargunt hasti*', meaning '*hastati* who hurl *hasti*' (*Annales* fr. 284 Vahlen), and their name probably reflects a time when they alone used *pila*.

1. Montefortino helmet
2. bronze pectoral
3. two *pila* (one heavy, one lightweight)
4. Iberian-pattern sword
5. Italic *scutum*



RIGHT

Based on a Celtic design, the Montefortino helmet was basically a hemispherical bronze bowl beaten into shape, with a narrow peaked neck guard and an integral crest knob, which was filled with lead to secure a crest pin. Such helmets also frequently had large, scalloped cheek pieces, as does this 3rd-century example (Bologna, Museo Civico Archeologico di Bologna inv. 28233). It comes from a burial site (Benacci tomba 953) of a Cisalpine Gaulish warrior. (Fields-Carre Collection)

FAR RIGHT

One of the commonest designs throughout Italy, the Montefortino helmet offered good defence from downward blows. Large cheek pieces protected the face without obscuring the wearer's vision or hearing, and those of this 3rd-century Samnite example (Karlsruhe, Badisches Landesmuseum, inv. AG 197) are identical in design to the triple-disc cuirass peculiar to an Oscan warrior. (Fields-Carre Collection)



the neck guard was narrow, a blow on the side would have knocked the helmet entirely out of place if it was not well secured. Cheek pieces were hinged. A crest, either a flowing horsehair plume or three upright feathers, was attached by means of a pin to an integral knob at the apex with a hollow filial. This was filled with lead once the crest pin was inserted.

Hobnailed boots (*caligae*)

The standard form of military footwear for all troop types, *caligae* consisted of a fretwork upper, an insole and a sole. The 20mm-thick sole was made up of several layers of oxhide glued together and studded with conical iron hobnails. Weighing a little under a kilogramme, the one-piece upper was laced

Reconstruction *caligae*, worn by a member of *legio XV Apollinaris cohors I*. *Caligae* were heavy-soled hobnailed footwear worn by all ranks up to and including centurions. Though they look to us like sandals, they were in fact marching boots. The open design allowed for the free passage of air (and water) and, unlike modern military boots, was specifically designed to reduce the likelihood of blisters forming, the bane of all fighting soldiers, as well as other incapacitating foot conditions such as trench foot. (MatthiasKabel)



up the centre of the foot and onto the top of the ankle with a leather thong, the open fretwork providing excellent ventilation that would reduce the possibility of blisters. Later sculptural evidence shows that thick woollen socks (*undones*), open at toe and the heel, could be worn within the boot.

The hobnails served to reinforce the *caligae*, to provide the wearer with better traction and to allow him to inflict harm by stomping. Moreover, the actual nailing pattern on the sole was arranged very ergonomically and anticipated modern training-shoe soles in being designed to optimize the transferral of weight between the different parts of the foot when it was placed on the ground. Experiments with modern reconstructions have demonstrated that, if properly fitted, the *caliga* is an excellent form of footwear, and can last for hundreds of kilometres. Much like all soldier's equipment past and present, *caligae* would have needed daily care and attention, such as the replacement of worn or lost hobnails or the cleaning and buffing of the fretwork upper.

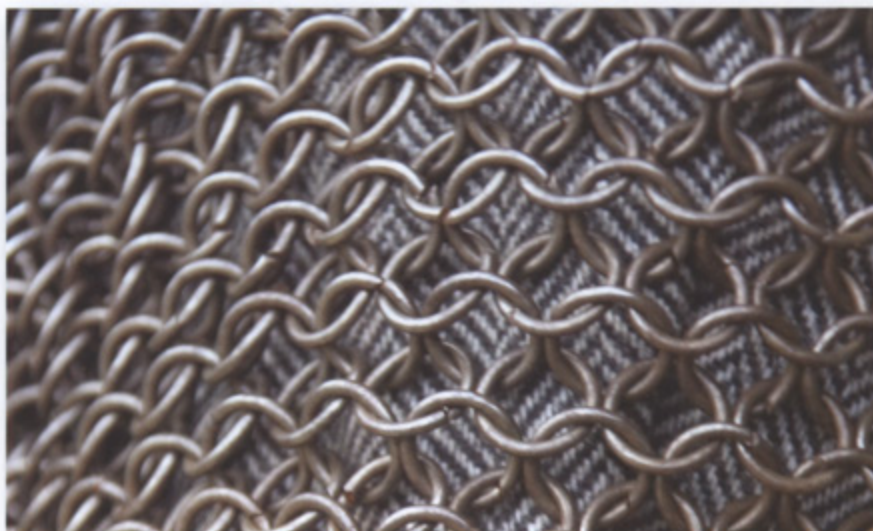
Body armour (*lorica*)

Polybios says (6.23.15) that all soldiers wore a bronze pectoral, which was a span (223mm) square, to protect the heart and upper chest, although those who could afford it would wear instead an iron mail shirt (*lorica hamata*).



Legionaries on the Altar of Domitianus Ahenobarbus (Paris, musée du Louvre, inv. Ma 975) equipped with the typical arms and armour of the last two centuries of the Republic. Each wears a crested Etrusco-Corinthian helmet and ring mail armour, and carries an Italic oval, semi-cylindrical body shield, conventionally known as the *scutum*. (Fields-Carré Collection)

Close-up view of a replica Roman mail shirt. Combining strength with flexibility, mail consisted of a matrix of alternatively riveted and solid iron rings, each being linked through its four neighbours. Very laborious to make, the problem was partly overcome by the introduction of alternate rows of solid rings, which did not need to be riveted. The 'rivet' to secure the flattened ends of riveted rings was a small triangular chip of metal, closed with a pair of tongs with recessed jaws. (Matthias Kabel)



The sides of a pectoral were undoubtedly pierced with holes for the stitching of a leather backing and the attachment of leather straps to hold it in place across the upper chest. To date no actual examples of the square pectoral have been found, though a round version has been recovered near Numantia with a diameter of 17cm. So it seems likely that the old Italic round models (viz. disc armour) were still very much in circulation, and less well-off citizens probably wore these too.

Varro (*de lingua Latina* 5.4.116) attributes the invention of mail to the Gauls. It was normally made of iron rings, on average about 1mm thick and 3–9mm in external diameter, it took some 10,000–20,000 rings to make a mail shirt. The wearer's shoulders could be reinforced with 'doubling', of which there were two types. One had comparatively narrow shoulder 'straps', imitating those of the Graeco-Etruscan linen corselet, and a second pattern, probably derived from earlier Celtic patterns, in the form of a shoulder cape. The second type required no backing leather, being simply drawn around the wearer's shoulder girdle and fastened with S-shaped breast hooks, which allowed the shoulder cape to move more easily.

Mail had two very considerable drawbacks: it was extremely laborious to make, and while it afforded complete freedom of movement to the wearer, it was very heavy (10–15kg). Nonetheless, such armour was extremely popular with the soldiers. A mail shirt was flexible and essentially shapeless, fitting more closely to the wearer's body than other types of armour. In this respect it was comfortable, whilst the wearing of a waist belt helped to spread its considerable weight, which would otherwise be carried entirely by the shoulders. Mail offered reasonable protection, but could be penetrated by a strong thrust or an arrow fired at effective range. Finally, and from a more workaday perspective, the action of ring rubbing against ring meant that mail shirts were pretty much self-cleaning.

Greaves (*ocreae*)

Though not fatal in itself, a blow to the shins could prove debilitating enough to allow a legionary's guard to slip, thus opening him up for a killing blow. Though cumbersome and hot to wear, greaves protected the shins well. Interestingly, Polybios (6.23.8, cf. Livy 9.40.2) clearly refers to only one

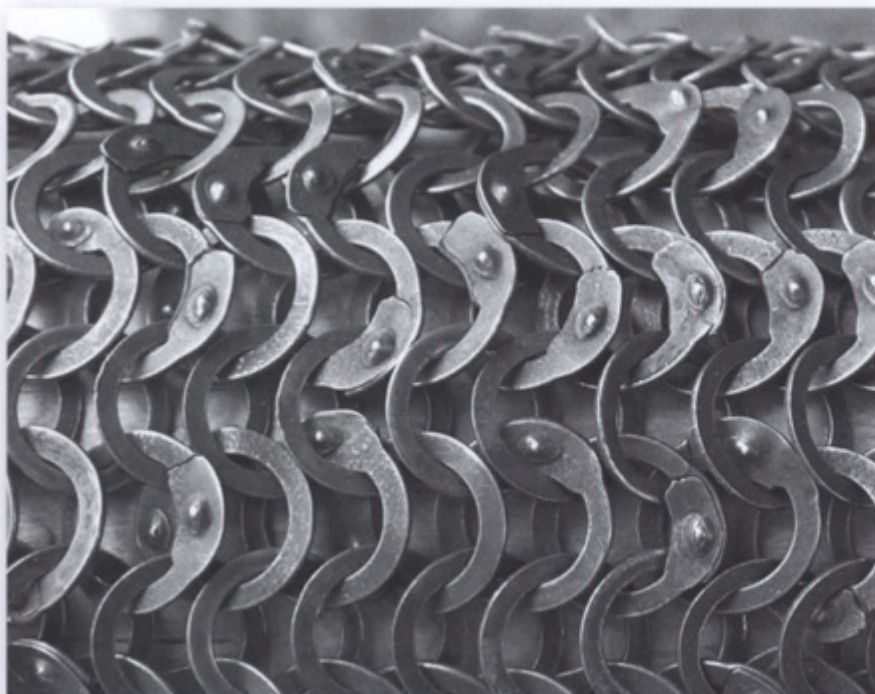


Attic frieze, south face of the Arc de triomphe d' Orange. Current research favours an Augustan date, the monument celebrating the veterans of the wars in Gaul, particularly those of *legio II Augusta*. Of interest to us, however, are the mailed horsemen wearing a pattern of mail shirt complete with shoulder cape fastened with S-shaped breast hooks. The earliest evidence for iron mail is that found in a 3rd-century Celtic grave at Ciulesti, Romania. (Hedwig Storch)

greave being worn, and Arrian (*Ars Tactica* 3.5), writing more or less three centuries later, confirms this, saying that the ancient Romans used to wear one greave only, on the leading leg, the left, whereas Vegetius (1.20), writing a couple of centuries even later, puts the single greave on the right leg. Without doubt many of those who could afford it would actually have a pair of greaves covering each leg from ankle to knee (see photograph on page 27). Italic-style greaves, as opposed to Graeco-Etruscan ones, were often fastened by straps and not their own elasticity.

Heavy javelin (*pilum*)

In the Livian legion there is no reference to the *pilum*, which, if Livy's account is accepted, may not yet have been introduced. The earliest reference to the *pilum* belongs to 293 BC, during the Third Samnite War (Livy 10.39.12, cf. Plutarch *Pyrrhos* 21.9), though the earliest authentic use of this weapon may belong to 251 BC (Polybios 1.40.12). The *pilum*, therefore, was probably adopted by the Romans who had experienced the deadly efficiency of this weapon when it was used against them by Iberian mercenaries fighting for Carthage in the First Punic War (264–241 BC).



Modern mail made of alternating rows of riveted and solid rings. Several patterns of linking the rings together have been attested, but the most common (and the dominant type in Europe) was the '4-to-1' pattern, where each ring was linked to four others, two in the row above and two in that below. With this complicated construction, the force of a sword blow was spread over a wide enough area for the wearer to be no more than bruised. The rings were made using wrought iron. (Snowdog)

Some of the 60 *pilum* heads recovered from the site of Telamon, probably deposited as a votive offering in a local temple after the battle. The *pilum* was employed by legionaries as a short-range shock weapon; it had a maximum range of 30m or thereabouts, though in all likelihood it was discharged within 15m of the enemy for maximum effect. The armour-piercing capability of the *pilum* made it an effective missile weapon, deadly to both armoured and unarmoured opponents alike. Indeed, a *pila* volley delivered at less than 20m could be devastating both physically and morally. (After Vacano 1988: abb. 5, taf. xi)



Polybios distinguishes between two types of *pilum* (*byssos* in his Greek), ‘thick’ and ‘thin’, saying that each man had both types (6.23.9–11). Surviving examples from Talamonaccio (ancient Telamon, Etruria), the site of a Roman battle (225 BC), and Numantia (near modern Burgos, Castile), the site of a Roman siege (134–133 BC), confirm two basic types of construction. Both have a small pyramid-shaped point at the end of a narrow soft-iron shank,

D

THIRD-LINE LEGIONARY, *TRIARIUS*

In this reconstruction we show a *triarius*, fully equipped for campaign, from the time of the Hannibalic War. He is a citizen of substance, a battle-scarred veteran. He wears an Etrusco-Corinthian helmet, a peculiar and perverted development of the closed Greek Corinthian helmet commonly worn by hoplites. For battle this was usually adorned with upright feathers (purple or black) and a fore-and-aft horsehair crest (undyed), but these have been removed for the march. He has equipped himself with a long, iron mail shirt and Italic strap-on bronze greave on his left leg, though many *triarii* would equip themselves with a pair. He carries an oval-shaped body shield, or *scutum*, with metal binding top and bottom and a metal boss plate (copper alloy or iron), which is reinforcing the wooden spindle boss. He is gripping with his right hand an old-style long thrusting spear, or *hasta*, with a large, socketed iron spearhead and a bronze butt-spike. A *gladius* is carried in its scabbard high on the right hip, as is a *pugio* on the left hip. He wears an undyed woollen tunic and a pair of *caligae*. He also wears a form of coarse woollen hooded cloak, the poncho-like *paenula*, commonly worn by everyone, soldiers and civilians, rich and poor, in inclement weather. Invariably of a yellow-brown hue, the body is cut from a single piece of cloth, to hang with a straight lower edge. It is fastened down the front, to mid-chest level, with two button-and-loop fastenings and two bone or wooden toggles. Its pointed hood has been sewn on separately. It is travel-stained. Behind him grazes a mule carrying the leather tent, digging tools, quern stones and pots and pans of the *triarius*’ eight-man *contubernium*.

1. *paenula*
2. Etrusco-Corinthian helmet
3. long, iron mail shirt
4. *hasta*
5. *gladius*
6. *pugio*



What Greeks called the *saunion* was a distinctive Iberian weapon, a slim javelin, about 1.6–2m long, made entirely from iron (Latin *soliferreum*), with a small barbed head and a pointed butt. According to Strabo (5.4.12) it could punch through helmet, shield or body armour, and then embed itself in flesh or bone. Another type had an iron shaft tipped with a barbed head, around 20–30cm long, riveted to a wooden shaft. It was thus similar to the Roman *pilum*, and may have served as a model for it. In this collection of Iberian weapons (Alicante, Museo Arqueologico de Alicante) we see an example of the *soliferreum*. (Dorieo)



A member of the Tarragona-based re-enactment group *LEGIO PRIMA GERMANICA* equipped as a veteran citizen soldier, a *triarius*, from the time of the war with Hannibal. As we can see, the third line of the manipular legion still wielded the old hoplite spear (Greek *doru*, Latin *hasta*), a weapon for thrusting, not throwing. (Photograph courtesy of Graham Sumner)



fitted to a one-piece wooden shaft some 1.4m in length. For the latter, ash was the preferred wood, though hazel, willow, poplar and alder were also used. One type had the shank socketed, while the other had a wide flat iron tang riveted to a thickened section of the wooden shaft. The last type was probably Polybios' 'thick' *pilum*, referring to the broad joint of iron and wood. This broad section could be either square or round in section, and was strengthened by a small iron ferrule. The iron shank varied in length, with many examples averaging around 70cm.

All of the weapon's weight was concentrated behind the small pyramidal tip, giving it great penetrative power. The length of the iron shank gave it the reach to punch through an enemy's shield and still go on to wound his body. A useful side effect of this 'armour piercing' weapon was that the narrow shank tended to buckle and bend under the weight of the shaft. With its aerodynamic qualities destroyed, it could not be effectively thrown back, while if it lodged in a shield, it became extremely difficult to pull free, which probably forced the man to discard his weighted-down shield and fight unprotected. Modern experiments have shown that a *pilum*, thrown from a distance of 5m, could pierce 30mm of pine or 20mm of plywood. The maximum range of the *pilum* was some 30m, but its effective range was something like half that. Throwing a *pilum* at close range would have improved both accuracy and armour penetration.

Hoplite spear (*hasta*)

The principal weapon of the *triarii* was a long thrusting spear. Fashioned out of polished ash wood and some 2–2.5m in length, this spear, which was a relic of the era when the Roman army was a hoplite militia, was equipped with a socketed iron spearhead, often between 20cm and 30cm long, and a bronze butt-spike. As well as acting as a counterweight to the spearhead, the butt-spike allowed the spear to be planted in the ground when not in use (being bronze it did not rust), or would be used to fight with if the spear shaft

snapped or shattered in the *mêlée*. The main drawback of the spear was of course the inherent weakness of the wooden shaft.

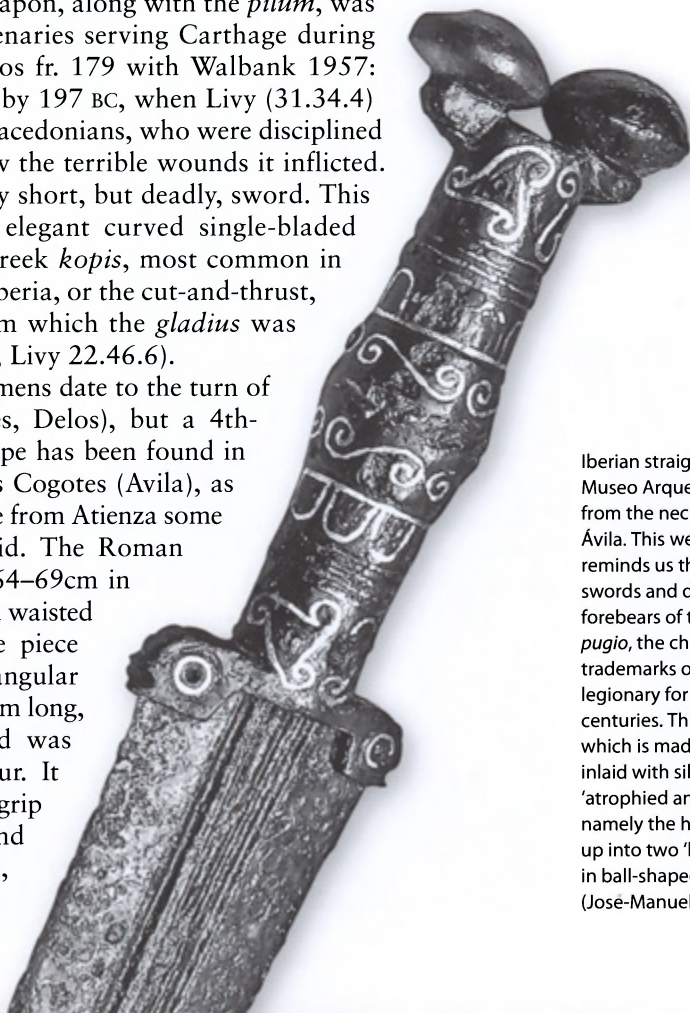
In close-quarter combat the weapon was usually held over the right shoulder, poised for an overarm strike, although it could be conveniently thrust underarm if charging into contact at the run. In both cases the wielder needed to keep his elbows tucked close to the body so as not to expose the vulnerable right armpit. The primary target area for the weapon was the face, which was neither armoured nor shielded. Secondary target areas were the throat and right armpit, which were usually exposed and poorly armoured. Hits on all these areas were potentially crippling if not fatal. The centre of the shaft was bound in cord or a thong for a secure grip.

The retention of the *hasta* as the offensive arm of the *triarii* shows that the Romans were not yet entirely convinced of the superiority of the *pilum* in all tactical circumstances, but still preferred to depend on the thrusting spear for the final push in the attack, and conversely, in the event of the need for a last stand.

Short sword (*gladius*)

Sometime in the 3rd century BC the Romans adopted a long-pointed, double-edged Iberian weapon, which they called the *gladius Hispaniensis* ('Iberian sword'). A later lexicographer, possibly following Polybios' lost account of the Iberian war, says the *gladius Hispaniensis* was adopted from the Iberians (or Celtiberians) at the time of the war with Hannibal, but it is possible that this weapon, along with the *pilum*, was adopted from Iberian mercenaries serving Carthage during the First Punic War (Polybios fr. 179 with Walbank 1957: 704). It was certainly in use by 197 BC, when Livy (31.34.4) described the shock of the Macedonians, who were disciplined professionals, when they saw the terrible wounds it inflicted. The Iberians used a relatively short, but deadly, sword. This was either the *falcata*, an elegant curved single-bladed weapon derived from the Greek *kopis*, most common in the south and south-east of Iberia, or the cut-and-thrust, straight-bladed weapon from which the *gladius* was derived (Polybios 3.114.2–4, Livy 22.46.6).

The earliest Roman specimens date to the turn of the 1st century BC (Mouriès, Delos), but a 4th-century sword of similar shape has been found in Spain at the cemetery of Los Cogotes (Avila), as has an earlier Iberian example from Atienza some 100km north-east of Madrid. The Roman blade could be as much as 64–69cm in length and 4.8–6cm wide, and waisted in the centre. It was a fine piece of 'blister steel' with a triangular point between 9.6cm and 20cm long, with razor-sharp edges, and was designed to puncture armour. It had a comfortable bone handgrip grooved to fit the fingers, and a large spherical pommel, usually of wood or ivory, to



Iberian straight sword (Madrid, Museo Arqueológico Nacional) from the necropolis of La Osera, Ávila. This weapon nicely reminds us that Iberian straight swords and daggers were the forebears of the *gladius* and *pugio*, the characteristic trademarks of the Roman legionary for some four centuries. This fine example, which is made of iron richly inlaid with silver, has an 'atrophied antennae' pommel, namely the hilt has been drawn up into two 'horns' terminating in ball-shaped ornaments. (Jose-Manuel Benito Álvarez)

Four Roman *gladii* (Mainz, Mittelrheinisches Landesmuseum). The left pair are representative of the 'Mainz' type, and the right pair of the 'Pompeii' type. First came the 'Mainz' pattern of the *gladius*; with its exceptionally long stabbing point it was little changed since its adoption from the Iberians. The 'Pompeii' pattern followed this, with its parallel cutting edges and much shorter, more triangular stabbing point. (Ancient Art & Architecture)

Iberian dagger (Madrid, Museo Arqueológico Nacional, inv. 10458), from the necropolis of Almedinilla, Córdoba, 4th/2nd century BC. Representing a type known as 'triangulars', this example is made of iron and silver and has an 'atrophied antennae' pommel, the characteristic feature of Iberian straight-bladed weapons. This weapon reminds us that the Romans copied Iberian daggers as well as swords. (Luis García)



help with counterbalance. Extant examples weigh between 1.2kg and 1.6kg. This basic design, with various minor modifications, continued as the weapon of choice to the turn of the 3rd century AD. The story of the *gladius* is an object lesson of the Roman way of taking the best of what others had learned and making it their own.

Unusually, a legionary carried his sword on the right-hand side, and it was suspended from a leather belt (*cingulum*) worn around the waist. As opposed to a scabbard-slide, the four-ring suspension system on the scabbard enabled the legionary to draw his weapon quickly with the right hand, an asset in close-quarter combat. By inverting the right hand to grasp the hilt and pushing the pommel forward, he drew the *gladius* with ease, and without unnecessary exposure of his right arm.

Military dagger (*pugio*)

The legionary also carried a dagger, called a *pugio*. It had a short, edged, stabbing blade, and was a weapon of last resort. However, it was probably more often employed in the day-to-day tasks of living on campaign. Carried on the left-hand side and suspended on the same waist belt that carried the sword, the *pugio* was slightly waisted in a leaf-shape and some 20–25.4cm long. The choice of a leaf-shaped blade resulted in a heavy weapon, to add



momentum to the thrust. Like the *gladius*, the Roman dagger was borrowed from the Iberians and then developed further. It even had the four-ring suspension system on the scabbard, characteristic of the *gladius*.

Body shield (*scutum*)

In an ideal world a shield should be large enough to cover the body, thick enough to be impenetrable, and light enough to permit ease of movement. In practice, of course, only two of these factors are achievable. The Romans of this period compromised on thickness in order to give the legionary a large manoeuvrable shield.

Iberian straight sword (Madrid, Museo Arqueologico Nacional), from the necropolis of Almedinilla, Cordoba, 5th/3rd century BC. This Iberian pattern was normally housed in an iron-framed scabbard fitted with three or four rings by which it was suspended from a belt or a baldric. The ring suspension system, commonly associated with the Romans (see photograph on top of page 38), allowed an Iberian warrior to draw his sword quickly in combat without exposing his fighting arm. (Luis Garcia)



The *scutum*, seen here on the Altar of Domitius Ahenobarbus (Paris, musee du Louvre, inv. Ma 975), was large enough to practically hide a legionary, who probably seldom exceeded 1.65m in height. To give it an effective mixture of flexibility and resilience, it was constructed of three layers of plywood and covered in calfskin. Plywood construction imparted a greater degree of resilience than its plank equivalent. To prevent splitting, copper alloy or iron binding protected its head and foot, while a sheet-metal boss plate reinforced its wooden spindle boss. (Fields-Carre Collection)

Copper alloy octal edging strips (Taunton, Somerset County Museum) from a *scutum*. These would have been fixed to the head and foot of the shield board. While the upper strip protected the shield board from the cutting strokes of swords, the lower one protected it from mundane nuisances such as wear and damp when resting on the ground. (Gaius Cornelius)



Each legionary carried a large dished shield (*scutum*), which was oval-shaped in the republican period. It was an Italic body shield possibly derived from the Samnites. To be light enough to be held continually in battle, shields were usually constructed of double- or triple-thickness plywood, which was made up of laminated wooden strips. Covered with canvas and hide, the shield was edged with copper alloy binding and had a wooden spine (*spina*) with a centrally placed bowl-shaped protrusion. This was hollowed out, furnished with a horizontal handgrip and reinforced with a sheet-iron or copper alloy or iron boss plate (*umbo*). According to Polybios the *scutum* measured 120cm in length by 75cm in width, and the one possible example of a republican *scutum*, found in 1900 at Kasr-el-Harit preserved in the dry sands of Fayûm, matched his description closely (Connolly 1998: 132).

This shield was midway between a rectangle and an oval in shape, and was 128cm in length and 63.5cm in width with a slight concavity. It was constructed from three layers of birchwood strips, the centre layer running vertically and being made of the widest strips, the outer and inner layers running horizontally and narrower. These layers were glued together and covered in lamb's wool felt, which was sewn carefully round the rim. This material was likely fitted damp in one piece, which, when dry, shrank and strengthened the whole artefact. The shield board was thicker in the centre (1.2cm) and flexible at the edges, making it very resilient to blows, and the head and foot may have been reinforced with copper alloy or iron-edging strips to prevent splitting. Nailed to the front and running vertically from top to bottom was a wooden spine in three sections.

Much like the riot shield of a modern policeman, the *scutum* was used both defensively and offensively to deflect blows and hammer into the opponent's shield or body to create openings. As he stood with his left foot forward, a legionary could get much of his body weight behind this punch. Added to this was the considerable weight of the *scutum* itself. Weights of reconstructions range from 5.5kg to 10kg, and a hefty punch delivered with the weight of the body behind the left hand stood a good chance of overbalancing an opponent.

Finally, least we forget, these short-term citizen soldiers provided their own equipment and therefore we should expect considerably more variation in clothing, armour and weapons than the legionaries of the later professional legions. There is no good reason to believe, for instance, that they wore tunics of the same hue or that shields were adorned with unit insignia. In fact, Polybios makes no mention of shield decoration, despite his detailed description of legionary equipment down to the colour of their plumes. This seems to be supported by sculptural evidence, such as the Aemilius Paullus monument or the Altar of Domitius Ahenobarbus, which show *scuta* as austere and unadorned. If indeed they were decorated, it was a matter of individual taste as opposed to one of group identity.

The *veles*

The *velites* were armed with a sword, the *gladius Hispaniensis* according to Livy (38.21.15) – contrary to Polybios, who uses the general Greek term *machaira* – and a bundle of javelins, with long thin iron heads a span (223mm) in length, which bent at the first impact. For protection they wore a helmet without a crest and carried a round shield (Latin *parma*), but wore no armour. In order to be distinguished from a distance, some *velites* would cover their plain helmets with a wolf's skin or something similar (Polybios 6.22.1–3). Polybios does not specify the number of javelins carried. Livy, on the other hand, says (26.4.4) that *velites* had seven javelins apiece, whilst the 2nd-century Roman satirist Lucilius (*Satires* 7.290) has them carrying five each.

The *eques*

Polybios (6.25.3–8) discusses the changes in the Roman cavalry in some detail, emphasising that the *equites* were now armed in 'the Greek fashion', namely bronze helmet, stiff linen corselet, strong circular shield, long spear and sword, but he observes that formerly (perhaps up to the Pyrrhic War when the Romans first encountered Greek cavalry) they had lacked body armour and had carried only a short spear and a small oxhide shield, which was too light for adequate protection at close quarters and tended to rot in the rain. This earlier shield may be the type shown on the Tarentine 'horsemen' coins of the early 4th century BC, with a flat rim and convex centre. For what it is worth, Livy mentions 'little round cavalry shields' (*equestris parma*, 2.20.10, cf. 4.28) in use as early as 499 BC, but this may be anachronistic.

Mausolee de Glanum, Saint-Remy-de-Provence. In this relief (pedestal, south face) we see a cavalry battle. On the fallen, riderless horse (bottom left) there is a good rendition of a padded saddle with four horns. It is assumed that this is a Gaulish horse, as the Romans did not depict their own men in difficulty or defeat on their monuments, whether triumphal or otherwise. Like most equestrian equipment, the four-horned saddle was almost certainly of Celtic origin, as it is depicted on the much earlier Gundestrop cauldron. (Cancre)



An *eques* on the Altar of Domitius Ahenobarbus (Paris, musée du Louvre, inv. Ma 975) wearing a mail shirt. The downside of this armour was its weight, around 15kg, and so the belt would transfer part of the shirt's burden from the shoulders to the hips. He also wears a Boiotian helmet, as is evident from its crinkly brim. This was a popular style with Graeco-Italic horsemen of the period as it provided unimpaired vision and hearing. (Fields-Carre Collection)



Intriguingly the sword now carried by the *equites* appears to have been the *gladius Hispaniensis*, for when Livy describes the horror felt by Macedonian troops on witnessing the hideous wounds inflicted upon their fallen comrades, the perpetrators were Roman cavalymen. If true, then the *gladius* used by the *equites* may well have been a little longer than that of the infantry.

Contrary to popular belief, the lack of stirrups was not a major handicap to ancient horsemen, especially those like the Numidians who were born among horses and spent their lives with and on them. Moreover, Roman cavalry of the time were perhaps already using the Celtic four-horned saddle, which provided an admirably firm seat. When a rider's weight was lowered

E

MOUNTED LEGIONARY, *EQUES*

In this reconstruction we show an *eques* standing beside his mount, fully equipped for campaign, from the time of the Third Macedonian War. He is an aristocratic youth. He wears a Boiotian helmet with a horsehair plume, which is dyed red. He has equipped himself with a short, iron mail shirt with cape-like shoulder doubling and a slit at each side of the bottom edge, giving ease of movement when mounting and dismounting as well making for an easy mounted seat. He carries a large round, flat shield made of wicker and covered in hide, complete with a wooden spindle boss reinforced with a sheet-metal boss plate and plain, painted face. He has a cavalry spear with a small, socketed iron spearhead and butt-spike. A long, straight Greek-pattern sword – a slashing weapon with a longer reach than the *gladius* – hangs at his left hip from a baldric. He wears a woollen tunic dyed red, and Thracian-style boots. His mount is equipped with a Celtic four-horned saddle, which sits on a tasseled saddlecloth, plain leather reins and bridle, an iron snaffle bit and a plain leather harness. Slung behind the saddle is his campaign equipment, which includes a rolled *paenula*, mess tin, camp kettle, water gourd, leather satchel and a feed bag for the horse.

1. Boiotian helmet
2. Attic helmet
3. short, iron mail shirt
4. Thracian-style boots
5. Greek-pattern sword
6. Celtic four-horned saddle





Oblique back view of a reconstructed Roman saddle. This type was certainly a part of Roman cavalry equipment in the time of Caesar, a concession, so he says (*Bellum Gallicum* 4.4.2), considered effete by the Germans. The padded saddle with four horns made by internal bronze stiffeners appears for the first time on Roman sculptures (Arc de triomphe d' Orange, Mausolée de Glanum) of the Augustan period. (Matthias Kabel)

onto this type of saddle the four tall horns (*cornicula*) closed around and gripped his thighs, but they did not inhibit free movement to the same extent as a modern pommel-and-cantle saddle, which is designed for rider comfort and safety. This was especially important to spear- and sword-carrying cavalry favoured by the Romans, whose drill called for some almost acrobatic changes of position.

ON CAMPAIGN

It was not all plain sailing with the new tactical system, and the manipular legion was to meet some very tough opponents upon the field of battle. One example will suffice here. During the Third Samnite War (298–290 BC) the Romans faced a powerful coalition of Etruscans, Umbrians, Samnites and Senonian Gauls, and at Sentinum in Umbria (295 BC) they fought one of the most crucial battles of their history. The Etruscans and Umbrians were not present on the historic field, yet bitter experience had shown the Romans that of all these people only the Samnites and Gauls were really formidable in battle. Just as Wellington said of Waterloo, Sentinum was 'the nearest run thing'. Livy (10.27.18) was sure it would have gone the other way had the Etruscans and the Umbrians been present, and we have no reason to doubt his certainty here.

Salary

It is at the siege of the Etruscan city of Veii, when the campaign dragged on into the winter months of 396 BC, that we first hear of payment (*stipendium*) being made to the citizen soldiers (Diodoros 14.16.5, Livy 4.59.11). It was not until Polybios' day, however, that any sure evidence on regular pay becomes available. Polybios, writing of his own day, says that a legionary received 2 obols a day, which was equivalent to 120 *denarii* a year if we make the assumption that the Polybian *drachme* was the equivalent of a *denarius*. He adds that centurions were paid double that rate, while the *equites* received even more, one *denarius* a day, from which to meet the cost of maintaining their mounts (6.39.12, 15). He also tells us that stoppages were made for the cost of a soldier's rations, clothing and extra equipment, and that these stoppages were made at source according to a fixed schedule.

So the wage was not high and certainly did not make soldiering a career, but it supported the citizen during his military service by covering his basic living expenses. It appears that the commander himself took charge of the pay parade. Livy, writing of Scipio in 206 BC, says (28.29.2) that the absence of the commander through illness prevented the payment of the soldiers on time.

Sustenance

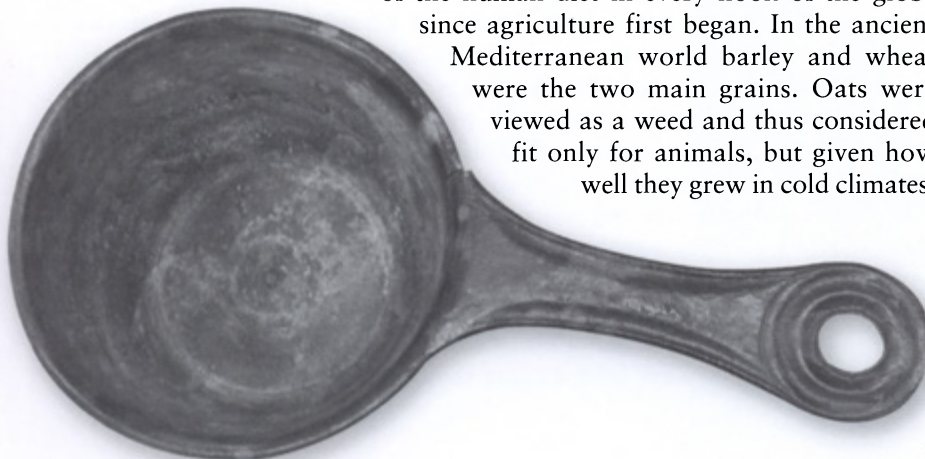
The axiom, commonly attributed to Napoleon, that 'an army marches on its stomach' applies to all armies of all periods, and the Roman army was certainly no exception. After all, men who carried the weight of so much war gear and equipment when they go off to fight must have got hungry.

It was the Roman practice in the 2nd century BC, according to the contemporary testimony of Polybios (6.39.13), to issue a monthly ration of cereal equal to two-thirds of an Attic *medimnos* (34.56kg) to each legionary, which is more or less equivalent to the daily allowance of one *choinix* (1.08kg) of cereal per man we commonly read of in Greek sources.

One cereal or another has formed the staple basis of the human diet in every nook of the globe since agriculture first began. In the ancient Mediterranean world barley and wheat were the two main grains. Oats were viewed as a weed and thus considered fit only for animals, but given how well they grew in cold climates,



Pictones coin, 2nd or 1st century BC (Paris, Cabinet des Medailles, Bibliotheque Nationale), depicting a Gaulish warrior. He wears what looks like a mail shirt with shoulder cape, belted at the waist. It is believed that the Romans first met mail-clad Gauls in Gallia Cisalpina. The Romans soon adopted this Celtic technology, and those citizens who had the means would naturally choose a mail shirt over a bronze pectoral. (World Imaging)



Each legionary carried one of these, a mess tin, *patera* (Bologna, Museo Civico Archeologico di Bologna, inv. ROM 1335), 1st century BC. It consists of a ladle-shaped dish with a flat bottom, sloping sides and a long, flat handle with a hole punched in the end. The *patera*, including the handle, was spun and formed from a single sheet of bronze. (Fields-Carré Collection)



Relief (Rome, Campidoglio Tabularium, inv. 1020814) from the Lacus Curtius. For Livy (7.6.1–6) the most plausible story for naming a mysterious swamp hole in the Forum *Lacus Curtius* was because a young Roman horseman, Marcus Curtius, rode pell-mell fully armed into it, his self-sacrifice saving Rome. He wears a crested Etrusco-Corinthian helmet, a short cuirass with shoulder doubling and *pteruges*, and holds a large, Greek-style cavalry shield. He is armed with a sturdy spear, which possibly carries a butt-spike. (Lalupa)

they were popular among Celtic and Germanic peoples, while rye, the closest relative of wheat, was a ‘northern’ grain. Barley was generally known as ‘fodder for slaves’ (Athenaios 7.304b) and was considered far less nourishing than wheat, so much so that by the 4th century BC the preference for wheat and the bread made from it, in affluent circles at least, had ousted barley from its prominent position in the Mediterranean diet. Wheat therefore became the staple cereal in the Mediterranean basin, and barley the cheaper but lowly alternative. In the Roman army, so Polybios (6.38.2) tells us, soldiers were fed on barley instead of wheat as a form of punishment.

The legionaries would eat unleavened bread, with the resulting loaf looking more like a modern pitta. Another form of unleavened bread was ‘quick bread’, *panis strepticus*, which was rolled into wafer-thin sheets then baked quickly, probably on hot stone. This was probably the daily bread eaten by legionaries.

Eggs, olives, fruit and cheese should not be forgotten, nor sour wine (*acetum*) and salt. Sour wine, as opposed to vintage wine (*vinum*), was the drink of the ordinary soldier, and could be mixed with water to make the time-honoured tippie of the proletariat, *posca* (Plautus *Miles Gloriosus* 837, *Truculentus* 610). In some cases, flavouring herbs, honey or eggs were also mixed. Popular with travellers too, *posca* was a refreshing drink on the road. Like soldiers, they carried the sour wine in a flask, ready to dilute when they found water. Its acidity not only meant it took longer to spoil but it also killed harmful bacteria, a bonus when the only available water came from a dubious source. As well as purifying water, wounds could be washed clean with it, and Pliny the Elder (*Historia Naturalis* 23.27) gives a long list of applications including its use as an eye salve and for the treatment of diarrhoea.

When Scipio Aemilianus reintroduced military discipline to the army at Numantia when he took command of it in 134 BC, he ordered that the only way the soldiers could cook their meat was by roasting or boiling it. It was for this purpose that he reduced the number of cooking utensils to the standard three: a spit for roasting, a pot for boiling, and a mess tin for eating. The evening meal was always either roast or boiled meat (Appian *Iberica* 85, cf. Frontinus *Strategemata* 4.1.1, Polyainos *Strategemata* 8.16.2).

In all three cases it should be noted that in the Roman army meat was part of the daily diet, and Polybios (2.15.3) observes that in Italy acorns were used to feed a large number of swine, which were slaughtered not only for private consumption but also to feed the army. Whereas cattle fulfilled all kinds of practical functions, sheep provided wool, goats gave their milk and geese and chickens likewise their eggs, the only animal that had no other use than for the spit or the pot was the pig. Indeed, the Romans ate every bit of the pig, apart from the bones and the eyes: the ears, the cheek, the jaw, snout and tongue were all considered delicacies.

Normally, two square meals were eaten each day; what we would call lunch (*prandium*) was eaten around midday, and supper (*cena*) was eaten around the tenth or eleventh hour on the Roman sundial. Army life began at dawn, so the soldiers had little time to prepare breakfast (*ientaculum*). They probably nibbled a bit of bread, perhaps dipped in undiluted wine.

EXPERIENCE OF BATTLE

Ultimately, when the art of war is reduced to its simplest elements, we find that there are only two methods by which an enemy can be overthrown on the field of battle. Either the shock or the missile must be employed against him, a simple choice of annihilation or attrition. In the former, victory is secured through the face-to-face hand-to-hand struggle, in the latter, via a constant and deadly rain of missiles that aims to destroy or drive away the enemy before it can come to close quarters. And so battlefield weapons took on the characteristics that still define them: shock weapons like the stabbing spear, sword or axe, and projectile weapons such as the sling, bow or throwing spear. Legionaries hurling their *pila*, albeit at close range, matched the offensive punch of missile troops; yet with their *scuta* and *gladii* they also served as shock troops to physically push the enemy from the battlefield. In their combined use of *pilum*, *scutum* and *gladius* the Romans had partially solved the age-old dilemma of choosing between missile and shock attack.

Before battle

The legionary, like all professional foot soldiers before his day and after, was grossly overloaded – alarmingly so according to some accounts. Cicero wrote of ‘the toil, the great toil, of the march: the load of more than half a month’s provisions, the load of any and everything that might be required, the load of

The Capena Plate (Rome, Museo Nazionale di Villa Giulia, inv. 23949) showing what is unmistakably an Indian elephant, and possibly one of those brought to Italy by Pyrrhos. Confronting the Romans for the first time with professionals trained in the world-conquering tactics of cousin Alexander, Pyrrhos also brought another Hellenistic novelty: a score of elephants. Only when a brave (or foolhardy) legionary hacked the trunk off one elephant are the Romans said to have realized that ‘the monsters were mortal’ (Florus *Epitome* 1.13.9). Around 3m high at the shoulders, this breed was beefy enough to carry a wooden howdah, the plate showing a crenellated example holding two javelin-armed soldiers. (Fields-Carre Collection)



the stake for entrenchment' (*Tusculanae disputationes* 2.16.37). Normally, perhaps, a legionary carried rations for three days, not the two weeks to which Cicero refers, who, after all, was scarcely a soldier. All the same, it has been estimated that the legionary lumbered into battle burdened with equipment weighing as much as 35kg if not more, making him as helpless in open skirmishing as he was invulnerable in close formation.

Generally speaking, the military duties of a legionary were twofold: combat and construction. Construction went along with campaigning, and the construction of a marching camp every day gave the men peace of mind in the field, because they would have a place to retreat if needed. It also provided a relatively safe place to sleep; passing the night behind guarded ramparts kept the army from any more mental or physical fatigue than necessary. Although not as prolific at field engineering as legionaries of later periods of Rome's history, nonetheless it was in our period that the marching camp was perfected. Pyrrhos is supposed to have realized that he was not dealing with mere barbarians when he saw the order of the Roman camp (Plutarch *Pyrrhos* 16.5).

As a consular army neared the end of a day's march, one of the military tribunes and the centurions who formed the camp-surveying team were sent ahead to select a site for the camp. The site had to be open, preferably on rising ground and with no cover that could be exploited by the enemy. The camp itself covered an area of about 4 *plethra* (700m²). A point affording maximum visibility was selected for the site of the consul's tent (*praetorium*) and a white flag was placed on the spot. A red flag was set up on the side nearest water. Here the army would camp.

A ditch, some 0.9m deep and 1.2m wide, normally surrounded a camp. The spoil was piled up on the inside, faced with turf and levelled off to form a low rampart (*agger*). The two legions constructed the defences at the front and rear of the camp, while the two *alae* built the right and left sides. Each manipule was allotted a section about 25m long. The centurions checked that the work of their maniples was done properly, while a pair of Roman tribunes or Latin/Italian prefects supervised the overall effort on each side of the camp.

'Dying Celt' (Bologna, Museo Civico Archeologico di Bologna), cast of a Roman copy (Naples, Museo Archeologico Nazionale, inv. 6015) of 2nd-century Pergamene original. The Celts had a fearsome reputation for aggressiveness, even among the militaristic Romans, and there can be no doubt that initially they were terrified by these larger-than-life warriors, who adorned themselves with gold torques, wore long moustaches and hair that was slaked with lime to make it stand up like a horse's mane. They were also armed with a fearsome slashing sword. This was a blunt-ended long sword, wide, flat, straight and double-edged, with an overall length of 85–90cm. (Fields-Carré Collection)





Far stronger defences were needed when camping close to the enemy, and the work was likely to be hampered by attacks. Therefore as the army arrived, all the cavalry, the lightly armed troops and half of the heavy infantry were deployed in battle array in front of the projected line of the ditch facing the enemy. The baggage train was placed behind the line of the rampart and the remainder of the soldiers began to dig in. They dug a ditch 2.7m deep and 3.6m wide, piling up the spoil on the inside to form a turf-faced rampart 1.2m high. On the march, as Cicero alluded to above, each soldier carried a bundle of sharpened stakes, usually cut from sturdy branches. These were planted close together in the top of the rampart to form a palisade (*vallum*). As work proceeded, the heavy infantry were gradually withdrawn from the battle line, maniple by maniple, starting with the *triarrii* who were nearest the rampart. These men were put to work digging the other sides of the camp. The cavalry were not withdrawn until the defences facing the enemy were complete.

These defences offered protection against surprise attack, the ditch and rampart being sufficient only to delay attackers and not to stop them. The Romans rarely, if ever, planned to fight from within the camp, but to advance and meet the enemy in the field. Between the rampart line and the tent lines of a camp, a distance of 60m, was an open area known as the *intervallum*, which ensured that the tents were out of range of missiles thrown or shot from beyond the defences. More importantly, this space allowed the army to form itself up ready to deploy into battle order.

Aerial view of Taranto looking south, with the inner lagoon, Mare Piccolo (bottom), and outer bay, Mare Grande (top). Between the western extremity and the mainland opposite is a channel running north into the lagoon. The urban centre of ancient Taras was therefore surrounded by water on three sides: the circular lagoon in the north, by the narrow sound in the west, and by the deep bay and open sea to the south. Nonetheless, Taras, the pre-eminent of Italian Greek cities and a byword for extravagance and degenerate opulence, was to fall to the Romans following their defeat of Pyrrhos at Malventum. (Kadellar)

The marching camp was a highly organized, neatly laid out structure with the legions and *alae* divided into lines and maniples. Always constructed to recognizably the same pattern, a camp had four gateways (*portae praetoria*, *principalis dextra*, *decumana* and *principalis sinistra*) and two main roads (*viae principalis* and *praetoria*) running at 90 degrees and meeting in front of the *praetorium*. Everything was regulated, from the positioning of each unit's tents and baggage to the duties carried out by various contingents, so that, for instance, the *triarii* always provided guards for the horse lines. Likewise, the responsibilities of various officers to supervise the sentries around the camp and to transmit orders for the next day's march were also clearly allocated.

During battle

Polybios does not offer his readers an account of the legion in battle, but there are a number of combat descriptions both in his own work and that of Livy. However, very few accounts describe tactics in detail; a contemporary Roman (or Greek) audience would take much for granted. Even so, the legion would usually approach the enemy in its standard battle formation, the *triplex acies*, which was based around the triple line of *hastati*, *principes* and *triarii*, with the *velites* forming a light screen in front. As we know, each of these three lines consisted of ten maniples. When deployed, each maniple may have been separated from its lateral neighbour by the width of its own frontage (about 18m), though this is still a matter of some debate. Livy tells us that the maniples were 'a small distance apart' (8.8.5), which does not really help us a great deal. Moreover, the maniples of *hastati*, *principes* and *triarii* were staggered, with the more seasoned *principes* covering the gaps of the *hastati* in front, and likewise the veteran *triarii* covering those of the *principes*. This battle formation is conveniently called by modern

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BATTLE ON LAND

The legion was essentially a development of the Greek-style phalanx, which the Romans articulated into three lines, *triplex acies*, with each line in turn broken up into small blocks capable of independent manoeuvre with enough space between soldiers to allow them to use their weapons effectively. The Romans thus sacrificed the depth and cohesion of the phalanx for mobility and flexibility. These blocks, the *manipuli*, were each made up of two *centuriae*, centuries, the administrative subunits each under a *centurio* and an *optio*. The *manipulus* was the basic tactical unit in the Roman battleline and was under the command of the *centurio prior*, the senior of the two centurions, unless he was *hors de combat*, in which case the junior, *centurio posterior*, took command.

In this reconstruction we witness legionaries engaged in hand-to-hand combat. We are on the level plain of Magnesia in Lydia, fighting the final battle against that magnificent and ambitious king, Antiochos the Great. The legionaries face the Macedonian phalanx, a thing of brutal terror, but not without vulnerability. Each legionary has about a metre within which to fight, about twice as much elbow room as a phalangite of the phalanx, who, armed with a *sarissa*, depends on the mass and density of his formation to roll over the opposition. Meanwhile, the men in the second rank stand in the intervals between the men in the first, ready to protect their comrades' flanks and step up to replace them when they tire or fall. In theory, each phalangite seeks to maintain his heavy two-handed weapon horizontally, poking back and forth to occupy critical empty space should a legionary try to dodge under the 6m-long poles. But if *sarissae* begin to waver, a row of them go down wholesale from a hail of thrown *pila*, or if legionaries parrying with *scuta* and jabbing with *gladii* slice into the interior, or, worse, rip in from the naked sides of the phalanx, disaster is immediate. This raises the question of the comparative effectiveness of *sarissa* and *gladius*. The *sarissa*, of course, has a much longer reach, but the *gladius* is a more manageable and less cumbersome weapon, giving greater opportunity for skill in its use. As Appian once pointedly remarked, 'the weight of their equipment was such that they could not flee or wheel quickly and they were caught and cut down' (*Syrica* 34).





Panoramic view of Talamonaccio, the ancient site of Telamon. It was on and around this hill that a booty-laden Cisalpine Gaulish army was trapped and virtually destroyed by two consular armies. The Gauls, deployed to face in both directions, north and south, still managed to terrify the Romans with their 'fine order' and their 'dreadful din' (Polybios 2.29.6). The Romans had traditionally found the Gauls terrifying and, despite terrible losses, the Gauls upheld the struggle with the Romans for a lengthy time. (Mac9)

commentators the *quincunx*, from the five dots on a dice cube.

Battle would be opened by the screening *velites*, who attempted to disorganize and unsettle enemy formations with a scattering of missiles, each individual carrying a clutch of javelins to be thrown in very quick succession. This done, they retired through the gaps in the maniples of the *hastati* and made their way to the rear. The maniples of the *hastati* now re-formed to close the gaps, either by each maniple extending its frontage, thus giving individuals more elbow room in which to handle their weapons, or, if the maniple was drawn up two centuries deep, the *centurio posterior* would move his *centuria* to the left and forward, thus running out and forming up alongside the *centuria* of the *centurio prior* in the line itself (Keppie 1998: 38–39).

The first line now walked slowly forward in an eerie silence until some 15m – the effective range of a *pilum* – from the contact point. Immediately and without due warning the *hastati* then let fly their missile weapons, throwing first their light and then their heavy *pila*.

During the confusion caused by this *pila* storm, which could be devastating, the *hastati* drew their swords and, said Polybios, 'charged the enemy yelling their war cry and clashing their weapons against their shields as is their custom' (15.12.8, cf. 1.34.2). He also says (18.30.6–8) that the Romans formed up in a much looser formation than other heavy infantry, adding that this was necessary to use the sword and for the soldier to defend himself all round with his shield. This implies that the legionary essentially fought as an individual fighter, a swordsman, during the confusing but hopefully decisive end-phase of battle. Yet Cato, who served during the Second Punic War as an *eques* and a quaestor, always maintained that a soldier's bearing, confidence and the ferociousness of his war cry were more important than his actual skill with a blade (Plutarch *Cato major* 1.4). The importance of the psychological effect of the war cry is given in an account by Frontinus. He writes that, 'Marcus Marcellus on one occasion, fearing that a feeble battle cry would reveal the small number of his forces, commanded that sutlers, servants, and camp followers of every sort should join in the cry. He thus threw the enemy into panic by giving the appearance of having a large army' (*Strategemata* 2.4.8, cf. Livy 23.16.13–14).

Polybios, in an excursion dedicated to the comparison between Roman and Macedonian military equipment and tactical formations, says the following: 'According to the Roman methods of fighting each man makes his movements individually: not only does he defend his body with his long shield, constantly moving it to meet a threatened blow, but he uses his sword both for cutting and for thrusting' (18.30.6). It appears, therefore, that the tactical doctrine commonly associated with the Roman legionary of the Principate was already in place during Polybios' day. Having thrown the *pilum* and charged into contact, the standard drill for the legionary of the Principate was to punch the enemy in the face with the shield boss and then jab him in the belly with the razor-sharp point of the sword (Tacitus *Annales* 2.14, 21, 14.36, *Historiae* 2.42, *Agricola* 36.2).

In his near-contemporary account of the battle of Telamon (225 BC), Polybios tells us that 'Roman shields... were far more serviceable for defence and their swords for attack, since the Gaulish sword being only good for a cut and not for a thrust' (2.30.8). Soon after, when he covers the *tumultus Gallicus* of 223 BC, it is disclosed that legionaries, 'instead of slashing, continued to thrust with their swords, which did not bend, the points being very effective. Thus, striking one blow after another on the breast or face, they slew the greater part of their adversaries' (2.33.6). In a much later passage, he hints that they were trained to take the first whirling blow of the Celtic slashing sword on the top edge of the *scutum*, which was suitably bound with an iron or copper alloy octal strip (6.23.4).

An interesting argument for why the republican Roman army had adopted this tactical doctrine of 'punch-jab' comes from the Augustan historian, Dionysios of Halikarnassos. Having derided the Gallic manner of fighting, whereby the Gauls wielded their long slashing swords 'like hewers of wood', Dionysios (14.10.2) continues with a description of the art of swordsmanship as practised by legionaries:



Celtic long slashing sword in its copper alloy scabbard (New York, Metropolitan Museum of Art, inv. 1999.94 a-d), mid-1st century BC. Though modern analysis of Celtic blades suggests that they were very well made, with a good double edge and great flexibility, the iron sword itself was not contrived for finesse but was a weapon designed to hack an opponent to pieces or to beat him senseless. Many a legionary fell bludgeoned beneath a sudden arc of iron slashing through the air. The anthropoid hilt of this particularly fine example was probably intended to enhance the power of its bearer and serve as a talisman in battle. (PHGOM)

The Morelli Cassone depicting the Gauls defeated by Marcus Furius Camillus (main panel), Italian School (15th century). As the most experienced general of the day – he was to be elected dictator five times – Camillus (d. c. 365 BC) was the one to whom the Romans turned in times of dire need. He is also accredited with the introduction of the *stipendium*, the *pilum*, the *scutum* and manipular tactics. Apparently he had studied the Gallic art of warfare and thereby devised the panoply and tactics to cope with their maniacal charge. (© Courtauld's Art Gallery / Bridgeman Art Library)

Bronze portrait bust (Naples, Museo Archeologico Nazionale, inv. 5634) of Publius Cornelius Scipio Africanus (d. 185 BC). Seeing the deficiencies of the rather static traditional Roman tactics, Scipio experimented with small tactical units that could operate with greater flexibility. His tactics were inspired by Hannibal's, and they needed good legionary officers as well as generalship to implement. He thus saw the value of capable subordinates who could proceed on their own initiative. (Massimo Finizio)



On the other hand, the Romans' defence and counter manoeuvring against the barbarians was well practised and afforded greater safety. For while their foes were still raising their swords aloft, they would duck under their arms, holding up their shields, and then, stooping and crouching low, they would render vain and useless the blows of the others, which were aimed too high. The Romans, on the other hand, holding their swords straight out, would strike their opponents in the groin, their sides, and drive their blows through their breasts into their vitals. And if they saw any of them keeping these parts of their bodies protected, they would cut the tendons of their knees or ankles and topple them to the ground roaring and biting their shields and uttering cries resembling the howling of wild beasts.

What is apparent is that close-quarter combat between Roman legionary and Celtic warrior was a clash of two very different techniques. Physically superior and armed with a far more clumsy weapon that was virtually blunt at the tip and only effective in sweeping, slashing blows that left the attacker wide open to quick counter jabs, the Celt would have required plenty of room



BATTLE AT SEA

In this reconstruction we witness legionaries attempting to board an enemy vessel. We are on the high seas somewhere off Sicily. The ever-adaptable Romans have decided to fit their quinqueremes, the standard fighting vessel of the day, with a *corvus*, 'crow', a mechanical gangplank that enables enemy vessels to be boarded by legionaries serving as makeshift marines. This ingenious but simple device was clearly designed to enable the Romans, with their advantage in weight of metal and of men, to turn a sea battle into a close imitation of a land battle and thus swarm aboard and confront their adversaries with cold steel. They deserve our admiration for braving what was cooped-up fighting on an unknown element in a thing made of wood that might at any moment founder under foot. The possibility of plunging fully armoured into deep water by accident was always present.





Firmly rooted on the rocky crag of Epipolai, the fortress at Euryelos (Castello Eurialo) formed a powerful projecting bastion that commanded the western extremity of Syracuse at what would otherwise be a naturally easy route of access. If a besieger was foolish enough to launch a full-scale attack – Marcellus resolutely rejected the idea in 212 BC (Livy 25.25.6) – his men and machines could be battered by every engine of war in the main bastion and in the permanent outworks while they were advancing from extreme range to the outermost ditch. This is the inner ditch, looking south. (Fields-Carre Collection)

in which to swing his long slashing sword while simultaneously manoeuvring his flat oblong shield to block any Roman thrust. The warrior would have fought upright, aiming to slash his adversary with a downward blow to the head, neck and shoulders (if visible), or the right arm and the left leg. By using the whole arm, more force could be put into the blow than if it were delivered solely from the elbow. Such a blow would have been delivered diagonally downward right to left or left to right.

The Celtic slashing sword was certainly not contrived for finesse, but was designed to either hack an opponent to pieces or to beat him to a bloody pulp. Instinctively, the legionary would have attempted to use the metal rim of his *scutum* to ward off such an attack, but if he failed in this he was not entirely vulnerable. The narrow neck guard projecting straight out at the back of his Montefortino helmet would have provided some protection against this type of assault, and his *lorica hamata* would have offered good protection, since mail is vulnerable to thrusts rather than slashes. Furthermore, its shoulder doubling would have given even better protection, possibly absorbing much of the stroke's kinetic energy and reducing the risk of the underlying clavicle being broken.

Having drawn his *gladius* the legionary now adopted a very slight crouch, with the left foot forward, holding the *scutum* horizontally in front with the left hand and using it to cover the upper legs, the torso, and lower face. By keeping the *scutum* close to his body, the legionary not only gained optimum protection but also increased the range of the punch. His body would have been slightly turned in profile to his opponent in order to present as small a target as possible, with his elbows tucked close to the torso so as not to expose the vulnerable underarm. His feet were roughly a shoulder width apart. In this balanced position he could put all his body weight, which rested on the back leg, behind a punch with his *scutum*.



Punch delivered, it was now time for the swordplay. The footwork was simple and as direct as walking, for the legionary instantly stepped forward with his right foot, the weight of the body now helping to deliver an upward jab with the *gladius* held in the right hand with its blade horizontal. It is important to note here that although the right shoulder would deliver some of the power behind the thrust, the real power of the thrust came from the rotation of the legionary's hips as he stepped forward.

Essentially, two methods of combat could be employed by the legionary, namely proactive or reactive fighting. The first necessitated striking the first blow, perhaps through overwhelming his opponent with the *scutum*: here its sheer size was a premium. The second method involved taking the opponent's sword strike on the *scutum*. This would entail moving the shield a relatively short distance to meet the incoming blow: here the metal binding on its upper edge was a premium. The advantage here was that the parry and punch could be combined, the legionary moving in closer all the while to deliver the deadly thrust. In both cases, however, we should be aware of the fact that the final position of the legionary would have been a few inches from his opponent.

As we have discussed, Roman swordsmanship – entirely alien to the Celtic manner of war – was a result of careful training and a comprehensive system of discipline. It was relentlessly aggressive and emphasised striking a single, deadly thrust with a minimum of effort and with a minimum of penetration. Roman swordplay was simple, direct and effective. Such systematic violence had only one objective: the swift demise of the enemy on the field of battle. Celts, like other 'barbarians', always placed heroic deeds and a scorn of death above equipment and technique; in adopting the opposite attitude, 'civilized' Rome changed the nature and purpose of combat, and conquered triumphantly for centuries.

Panoramic view of countryside around Ascoli Satriano, the ancient site of Asculum. It was here that the Roman consular legions fought a ferocious two-day engagement against Pyrrhos and his phalanxes armed in the Macedonian fashion. It was the second day that witnessed hard fighting between legion and phalanx, but the Romans were eventually forced back to their camp by a furious elephant charge. The elephant king, himself wounded by a javelin, managed to scrape by with a very narrow triumph. 'Another such victory', he is said to have remarked, 'and we shall be lost' (Plutarch *Pyrrhos* 21.9) – whence comes our saying 'a Pyrrhic victory' for any success bought at too high a price. (Fototeca ENIT)

Ideally, it was the *hastati* who fought the main enemy line to a standstill, but if they were rebuffed, or lost momentum, an entire second formation, the succeeding line of *principes*, surged forward into the combat zone, casting their *pila* over their comrades' heads in the *mêlée*, the entire process of mechanical butchery now beginning anew. In the meantime, the *triarii* watched and waited at the rear. Close-quarter hand-to-hand fighting was physically strenuous and emotionally draining, and the skill of a Roman commander lay in committing his second and third lines at the right time. Left too late then the fighting line might buckle and break. Too soon and the value of adding fresh soldiers to the *mêlée* might be wasted. The survivors of the *hastati* and the *principes* were reinforced by the *triarii* if it came down to a final trial of strength. The phrase *inde rem ad triarios redisse*, 'the last resource is in the *triarii*' (Livy 8.8.9), passed into the Latin tongue as a description of a desperate situation.

Victory would eventually go to the side that endured the stress of staying so close to the enemy and was still able to urge enough of its men forward to renew the fighting. It was the inherent flexibility of the manipular system that made the legion a formidable battlefield force. In Polybios' measured analysis (15.15.7-10):

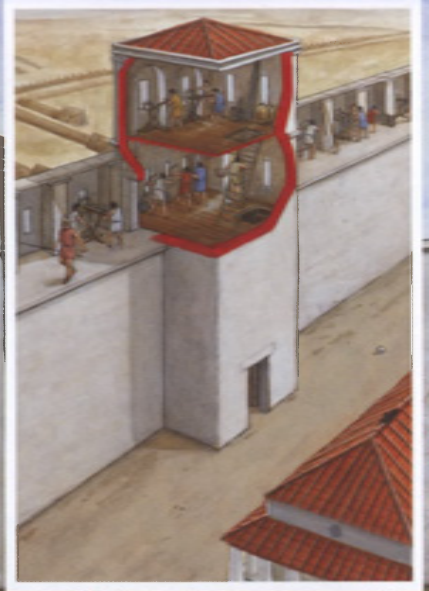
The order of battle used by the Roman army is very difficult to break through, since it allows every man to fight both individually and collectively; the effect is to offer a formation that can present a front in any direction, since the maniples that are nearest to the point where danger threatens wheels in order to meet it. The arms they carry both give protection and also instil great confidence into the men, because of the size of the shields and the strength of the swords, which can withstand repeated blows. All these factors make the Romans formidable antagonists in battle and very hard to overcome.

Hellenistic armies, for instance, preferred to deepen their phalanx rather than form troops into a second line, and made little use of reserves, as the commander's role was usually to charge at the head of his cavalry in the manner of Alexander the Great. The deepening of the pike-armed phalanx gave it much stamina in the *mêlée*, but even the men in the rear ranks were affected by the stress and exhaustion of prolonged combat. The Roman system, on the other hand, allowed fresh men to be fed into the fighting line, renewing its impetus and leading a surge forward, which might well have been enough to break a wearying enemy.



SIEGE OF SYRACUSE, 214–212 BC

In this reconstruction we witness legionaries mounting a formal assault upon a well-fortified city. We are outside the landward walls of Syracuse, Sicily. But the Romans have reckoned without the ingenuity of the defenders, inspired by the local genius-scientist, Archimedes. Sieges tended to consist of move and countermove as the attacker and defender employed their engineering skill and massive labour to gain an advantage or negate a project begun by the other side. For the attacker a siege involved him finding a way over (escalade), through (breach) or under (mine) the defender's fortifications. All the time the defender would be employing artillery to hinder this activity, countermining to thwart the attacker's tunnelling, and launching sallies to burn his towers and break his engines. Outside Syracuse, however, the Romans are learning, to their horror and discomfort, that Archimedes has also designed a fabulous and formidable array of ballistic and mechanical machines for the city.





Section of frieze decorating a victory (Pydna 168 BC) monument of Aemilius Paullus (Delphi, Archaeological Museum), the son of Lucius Aemilius Paullus killed on the fatal field of Cannae. From left to right: a legionary fighting a Macedonian cavalryman, a legionary in a mail shirt and a *socii* cavalryman also in a mail shirt but shorter and slit at the thigh to make for an easy mounted seat. The frieze plausibly depicts the skirmish between opposing watering parties that led to the main engagement, which was fought late in the day. (Fields-Carre Collection)

After battle

Having just captured New Carthage (209 BC), Scipio decided to exercise his battle-weary army outside its walls and so introduced a rigorous retraining programme for the men. It is described by Polybios thus: 'He ordered the soldiers on the first day to go at the double for thirty *stadia* (5.33km) in their armour. On the second day they were all to polish up, repair, and examine their arms in full view, and the third day to rest and remain idle. On the following day they were to practise, some of them sword fighting with wooden swords covered with leather and with a button on the point, while others practised casting javelins [*viz. pila*] also having a button on the point. On the fifth day they were to begin the same course of exercise again' (10.20.2–3).

Livy likewise describes Scipio's training programme, but reverses the order of the third and fourth days, which does make sound sense from a practical point of view: 'On the first day the legionaries manoeuvred under arms over a distance of 4 [Roman] miles (5.92km); on the second their orders were to parade in front of their tents and attend to the maintenance and cleaning of their weapons; on the third they had a mock battle all in proper form with wooden swords and foiled missiles; on the fourth they rested, and on the fifth there was more manoeuvres in full equipment' (26.51.4, cf. 40.6.5–7). And so the programme continued for all the time they remained at New Carthage.

And that is the point I am trying to make in this monograph. For no matter how many times the opposition beat the Romans, they never truly gained victory over the Romans. Pyrrhos and Hannibal, to pick the most obvious exemplars, did not understand that; for all their genius, they did not know anything about Romans.

GLOSSARY

<i>Acies</i>	line of battle
<i>Ala/alae</i>	'wing' – Latin/Italian unit comparable to <i>legio</i> (q.v.)
<i>As/asses</i>	small copper coin, originally worth 1/10th of <i>denarius</i> (q.v.), but retariffed at 16 to the <i>denarius</i> at the time of Gracchi
<i>Centurio/centuriones</i>	officer in command of <i>centuria</i> (q.v.)
<i>Centuria/centuriae</i>	administrative subunit of <i>manipulus</i> (q.v.)
<i>Decurio/decuriones</i>	officer in command of <i>turma</i> (q.v.)
<i>Denarius/denarii</i>	silver coin first issued in 211 BC, worth 10 <i>asses</i> (later 16 <i>asses</i>)
<i>Drachme/drachmae</i>	Greek standard weight as well as silver coin (Attic <i>drachme</i> = 6 obols)
<i>Manipulus/manipuli</i>	'handful' – tactical subunit of <i>legio</i> (q.v.)
<i>Modius/modii</i>	Roman dry measure (= 9.1 litres)
<i>Legio/legiones</i>	'levy' – principal unit of Roman army
<i>Optio/options</i>	second-in-command of <i>centuria/turma</i> (q.v.)
<i>Praetorium</i>	consul's tent
<i>Stadion/stadia</i>	Greek unit of distance that varied from place to place, but Polybios counts 8.5 <i>stadia</i> to the Roman mile, giving a Polybian stadion a length of 177.5m
<i>Tribunus(-i) militum</i>	'tribune of the soldiers' – military tribune
<i>Turma/turmae</i>	tactical subunit of cavalry

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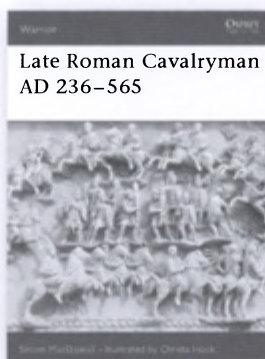
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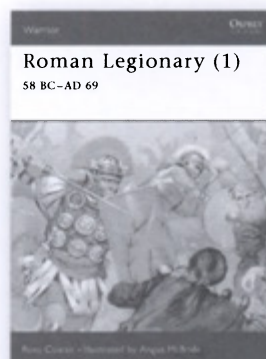
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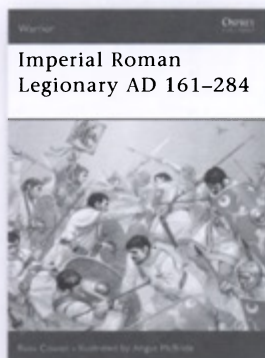
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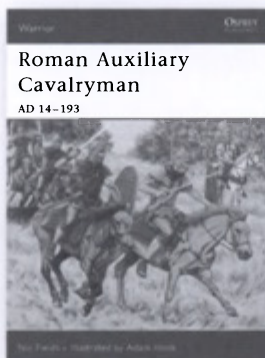
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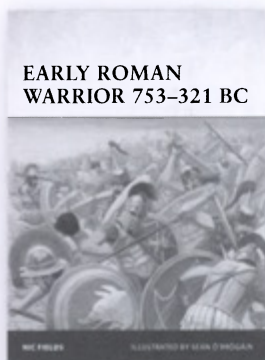
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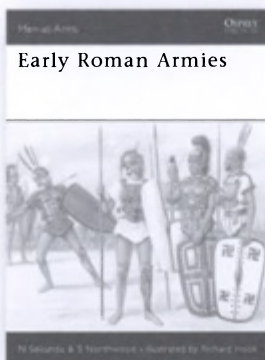
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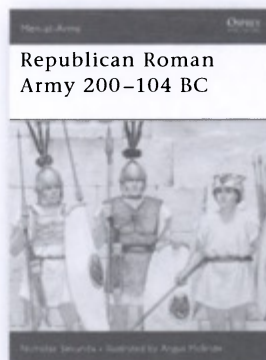
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